



# STIC Search Report

## EIC 1700

STIC Database Tracking Number: 93288

TO: Margaret Einsmann  
Location: CP3 9B28  
May 7, 2003

Case Serial Number: 10/089334

From: Kathleen Fuller  
Location: EIC 1700  
CP3/4 3D62  
Phone: 308-4290

Kathleen.Fuller@uspto.gov

### Search Notes

p32 Bad date  
SVC #12 P55  
4780/04 P90 borate buffer  
#23 EP208929 104 storage stable  
#24 123 Storage stable  
27 4149850  
#28 Det 3, 663, 576

# EIC1700

## Search Results

### Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact *the EIC searcher* who conducted the search *or contact*:

Kathleen Fuller, Team Leader, 308-4290, CP3/4 3D62

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#### *Voluntary Results Feedback Form*

➤ *I am an examiner in Workgroup:*  *Example:*

➤ *Relevant prior art found, search results used as follows:*

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

*Types of relevant prior art found:*

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ *Relevant prior art not found:*

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Search results were not useful in determining patentability or understanding the invention.

**Other Comments:**

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Drop off completed forms in CP3/4 - 3D62 .

=> file reg

FILE 'REGISTRY' ENTERED AT 10:43:03 ON 07 MAY 2003  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 6 MAY 2003 HIGHEST RN 511508-58-0  
DICTIONARY FILE UPDATES: 6 MAY 2003 HIGHEST RN 511508-58-0

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STN Note 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> file hcaplus

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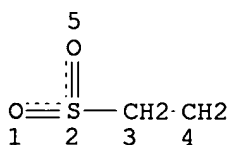
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FILE COVERS 1907 - 7 May 2003 VOL 138 ISS 19  
FILE LAST UPDATED: 6 May 2003 (20030506/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> d que

L2 6 SEA FILE=REGISTRY ABB=ON (110-16-7/BI OR 110-17-8/BI OR  
2580-78-1/BI OR 2809-21-4/BI OR 6915-15-7/BI OR 77-92-9/BI)  
L3 STR



126, 051 structures from the query

## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

## STEREO ATTRIBUTES: NONE

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L6 32292 SEA FILE=REGISTRY ABB=ON 591.359.15/RID  
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L9 38036 SEA FILE=REGISTRY ABB=ON 46.383.21/RID  
L10 125450 SEA FILE=REGISTRY ABB=ON 46.492.16/RID  
L11 126051 SEA FILE=REGISTRY SSS FUL L3  
L12 1 SEA FILE=REGISTRY ABB=ON L2 AND 1-2/P  
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L18 5 SEA FILE=HCAPLUS ABB=ON L15 AND L14  
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?BORAT?)  
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L47 8 SEA FILE=HCAPLUS ABB=ON L44 AND TEXTILE?/SC, SX

ring identifier  
for claim 4-  
treazene  
etc

L48 28 SEA FILE=HCAPLUS ABB=ON L45 OR L47

=&gt; d 148 all hitstr

L48 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 2003:42536 HCAPLUS

DN 138:103273

TI Two-photon absorbing dipyrromethene boron difluoride dyes and their applications

IN Meltola, Niko; Soini, Aleksi

PA Arctic Diagnostics Oy, Finland

SO PCT Int. Appl., 65 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G01N033-543

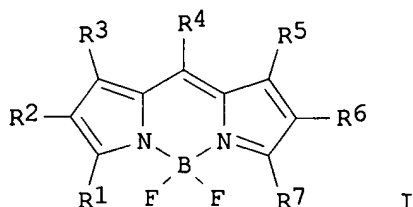
ICS C09B062-44

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 41

FAN.CNT 1

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PI	WO 2003005030	A1	20030116	WO 2002-FI586	20020701
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	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRAI	FI 2001-1439	A	20010702		
	US 2001-301788P	P	20010702		
OS	MARPAT 138:103273				
GI					



AB The invention relates to a sepn. free bioanal. assay method for measuring an analyte from a biol. fluid or suspension comprising of microparticles as a bioaffinity binding solid phase, a biospecific secondary reagent labeled with a two-photon fluorescent dipyrrometheneboron difluoride dye, focusing the laser into the reaction suspension measuring two-photon

excited fluorescence from single microparticles when they randomly float or are guided by the radiation pressure of the excitation laser through the focal vol. of the laser beam using a two-photon fluorescent dipyrrometheneboron difluoride dye. Dye has the structure II. At least one of the groups R1, R2, R3, R4, R5, R6 or R7 is substituted to yield a chem. reactive group that can be used for selective covalent linkage to other mols. and at least one of the groups R1, R2, R3, R4, R5, R6, R7 is substituted to yield a water-solubilizing group.

ST photon absorbing dipyrromethene boron difluoride dye

IT Immunoglobulins  
 RL: ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)  
 (G; two-photon absorbing dipyrromethene boron difluoride dyes and their applications)

IT Phycoerythrins  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (R-phycoerythrins; two-photon absorbing dipyrromethene boron difluoride dyes and their applications)

IT Molecular recognition  
 (bioaffinity binding; two-photon absorbing dipyrromethene boron difluoride dyes and their applications)

IT Body fluid  
 Drugs  
 Fluorometry  
 Immunoassay  
 Laser radiation  
 Microparticles  
 Two-photon absorption  
 (two-photon absorbing dipyrromethene boron difluoride dyes and their applications)

IT Antibodies  
 Haptens  
 Ligands  
 Nucleic acids  
 Oligonucleotides  
 Peptides, analysis  
 Proteins  
 RL: ANT (Analyte); ANST (Analytical study)  
 (two-photon absorbing dipyrromethene boron difluoride dyes and their applications)

IT 150173-72-1, BODIPY 558/568 187089-10-7, BODIPY 530/550 247145-11-5, Alexa 532  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (two-photon absorbing dipyrromethene boron difluoride dyes and their applications)

IT 66145-58-2P **87047-24-3P** 485393-51-9P 485393-52-0P  
 485393-53-1P 485393-54-2P 485393-55-3P **485393-56-4P**  
**485393-57-5P 485393-58-6P 485393-59-7P**  
**485393-60-0P 485393-61-1P 485393-62-2P**  
**485393-63-3P 485393-64-4P 485393-65-5P**  
**485393-66-6P**  
 RL: ARU (Analytical role, unclassified); RCT (Reactant); SPN  
 (Synthetic preparation); ANST (Analytical study); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (two-photon absorbing dipyrromethene boron difluoride dyes and their applications)

IT 68-12-2, DMF, reactions 121-44-8, Triethylamine, reactions 538-75-0, N, N'-Dicyclohexylcarbodiimide 2386-37-0 54474-50-9 72078-45-6

RL: RCT (Reactant); RACT (Reactant or reagent)  
(two-photon absorbing dipyrromethene boron difluoride dyes and their applications)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

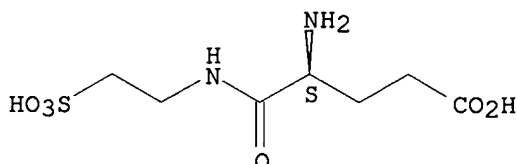
- (1) Anon; <http://www.probes.com/handbook/print/0104.html>, CHEMCATS Accession No 2000:175375 1999
- (2) Ariad Pharmaceuticals Inc; WO 9739326 A2 1997 HCAPLUS
- (3) Molecular Probes Inc; WO 9309185 A1 1993 HCAPLUS
- (4) Pekka, H; Nature Biotechnology 2000, V18, P548
- (5) Soini, E; WO 9963344 A1 1999 HCAPLUS
- (6) Worries, H; Recl Trav Chim Pays-Bas 1985, V104, P288 HCAPLUS
- (7) Zhang; US 5869689 A 1999 HCAPLUS

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(two-photon absorbing dipyrromethene boron difluoride  
dyes and their applications)

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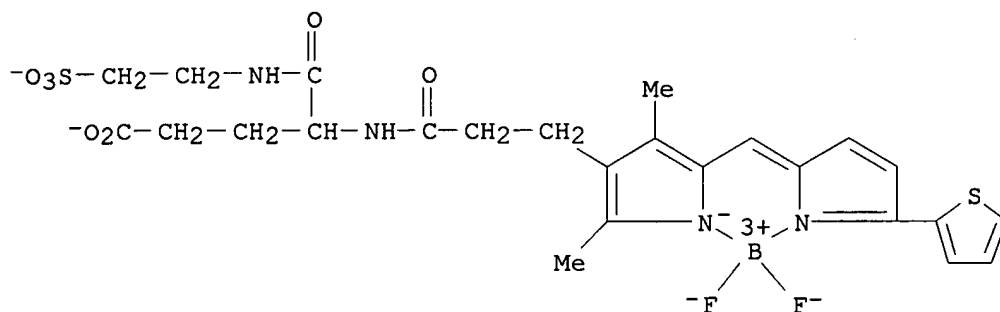
CN Pentanoic acid, 4-amino-5-oxo-5-[(2-sulfoethyl)amino]-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 485393-56-4 HCAPLUS

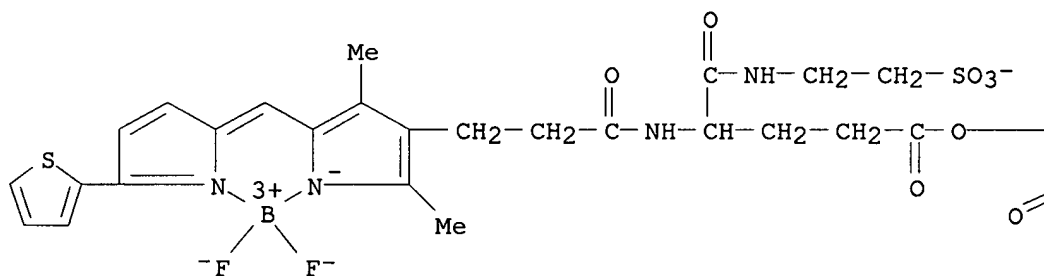
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O<sub>2</sub> H<sup>+</sup>

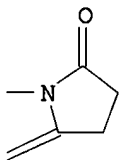
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PAGE 1-A

O H<sup>+</sup>

PAGE 1-B



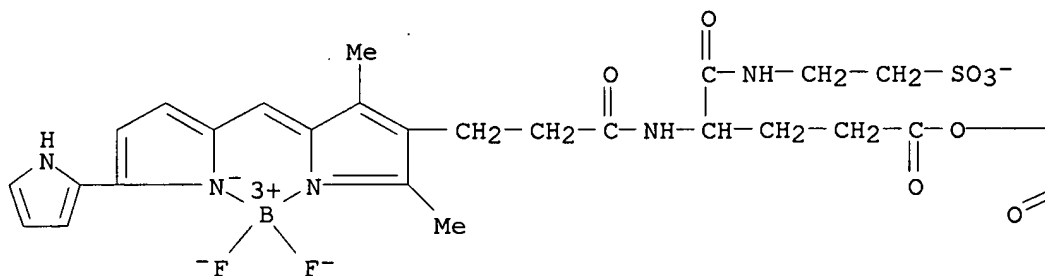
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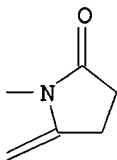


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PAGE 1-A

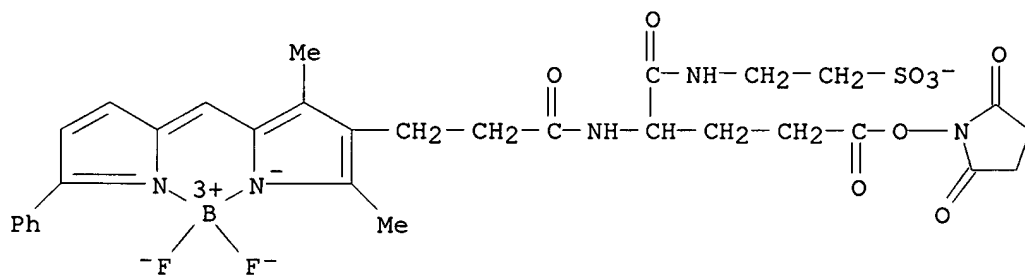
O H<sup>+</sup>

PAGE 1-B



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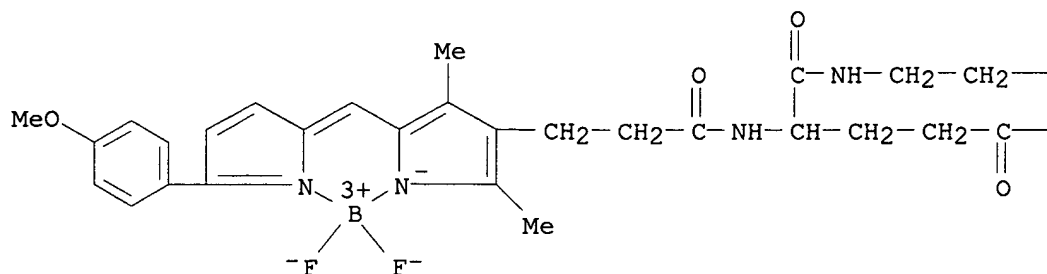
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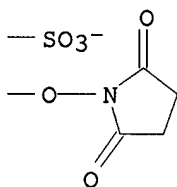
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PAGE 1-A



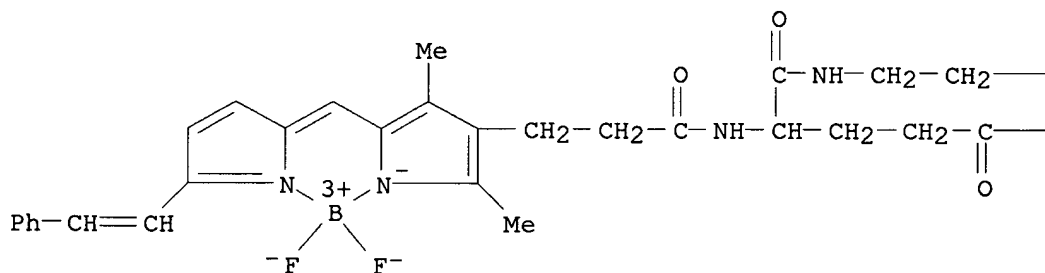
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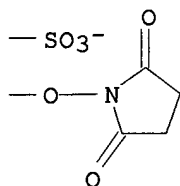
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PAGE 1-A



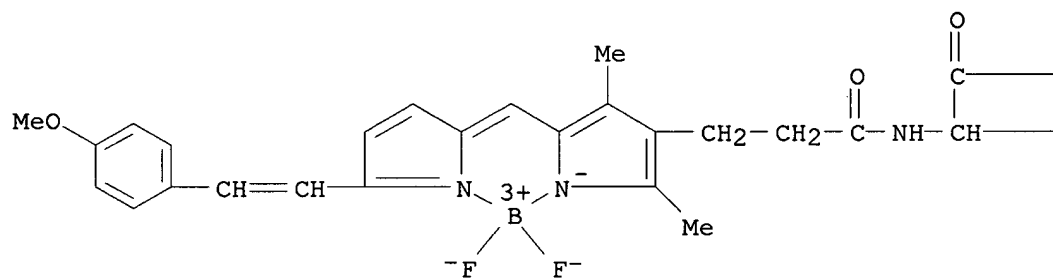
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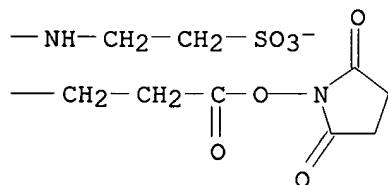


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 (CA INDEX NAME)

PAGE 1-A

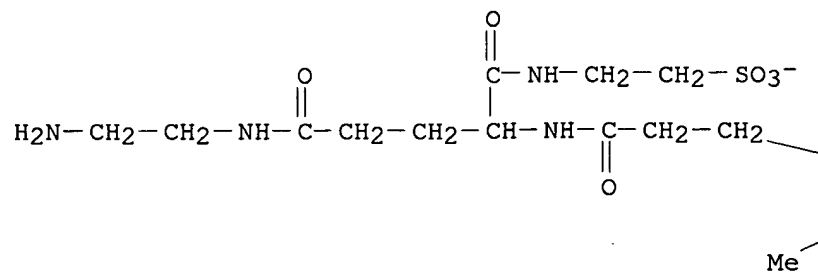
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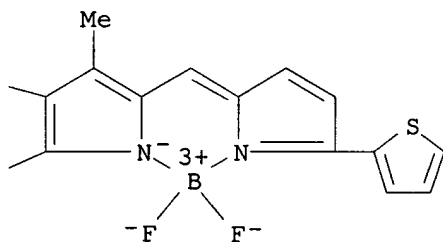


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PAGE 1-A

O H<sup>+</sup>

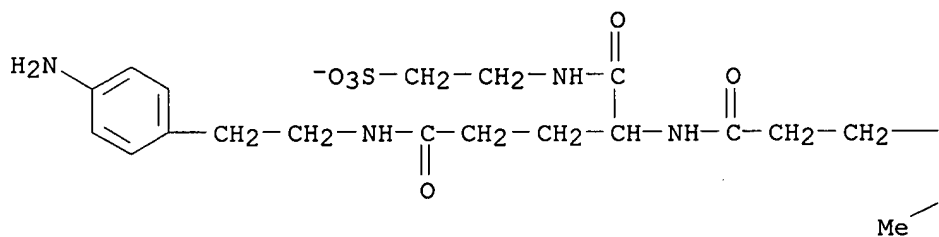
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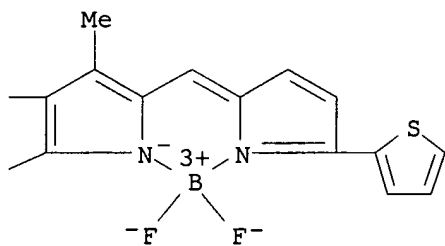
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PAGE 1-A

O H<sup>+</sup>

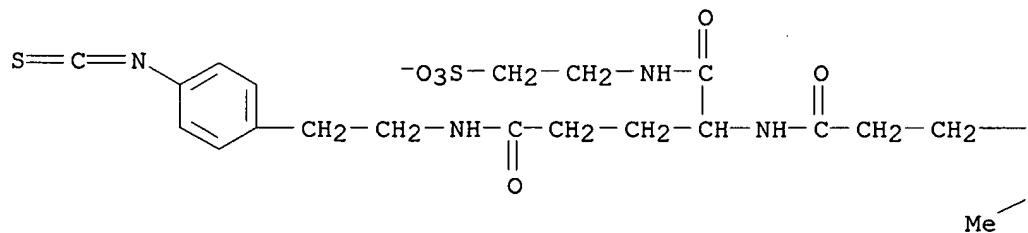
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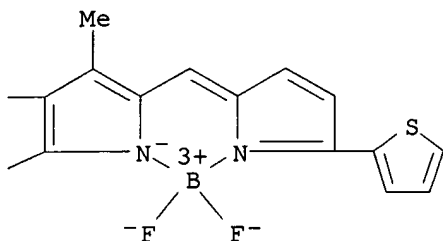
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PAGE 1-A

O H<sup>+</sup>

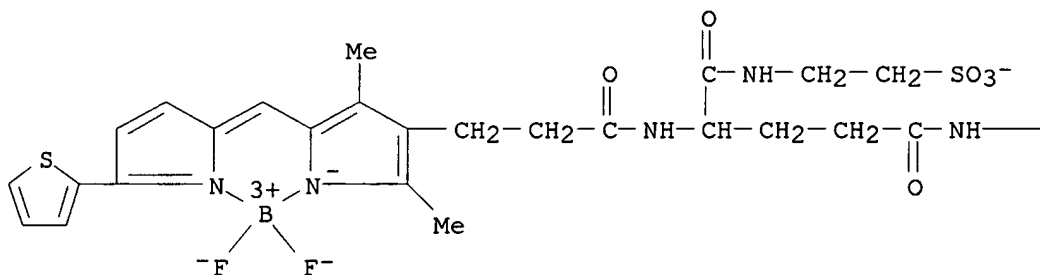
PAGE 1-B



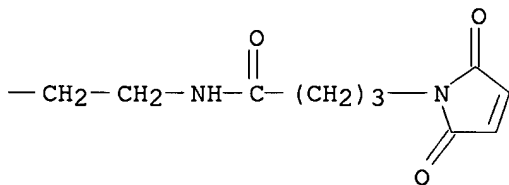
RN 485393-66-6 HCAPLUS

CN Borate(1-), [2-[[[(2S)-5-[[2-[[4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-1-oxobutyl]amino]ethyl]amino]-2-[[3-[2,4-dimethyl-5-[[5-(2-thienyl)-2H-pyrrol-2-ylidene-.kappa.N]methyl]-1H-pyrrol-3-yl-.kappa.N]-1-oxopropyl]amino]-1,5-dioxopentyl]amino]ethanesulfonato(2-)]difluoro-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)

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O H<sup>+</sup>

PAGE 1-B



=&gt; d 148 all hitstr 2-28

L48 ANSWER 2 OF 28 HCAPLUS COPYRIGHT 2003 ACS

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

AN 2003:42337 HCAPLUS  
 DN 138:91395  
 TI Method for increasing hydrophilicity of fluorescent label compounds, and their use  
 IN Meltola, Niko; Soini, Aleksi  
 PA Arctic Diagnostics Oy, Finland  
 SO PCT Int. Appl., 46 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM C09B062-44  
 CC 41-5 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
 Section cross-reference(s): 9, 78

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003004569	A1	20030116	WO 2002-FI581	20020701
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, VZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	FI 2001-1438	A	20010702		
	US 2001-301831P	P	20010702		
OS	MARPAT 138:91395				
AB	The invention relates to fluorescent label compds. in the form of dipyrrometheneboron difluoride dye derivs. contg. NHCH(CH <sub>2</sub> CH <sub>2</sub> Z)CONHY or NHCZCH <sub>2</sub> CH <sub>2</sub> CONHY groups, wherein Z is a reactive group and Y is a water-solubilizing moiety or CH <sub>2</sub> CH <sub>2</sub> SO <sub>3</sub> X, with X being a cation. The invention also relates to the use of the compds. in bioanal. assays and cytol. or histol. staining methods. The invention further relates to a method for increasing the hydrophilicity of fluorescent compds. In an example, a glutamic acid-aurine linker, HO <sub>2</sub> CCH <sub>2</sub> CH <sub>2</sub> CH(NH <sub>2</sub> )CONHCH <sub>2</sub> CH <sub>2</sub> SO <sub>3</sub> H, was prepd. and condensed with 4,4-difluoro-5-(2-thienyl)-1,3-dimethyl-4-bora-3a,4a-diaza-s-indacene-2-propionic acid succinimidyl ester and the product was then re-esterified with N-hydroxysuccinimide to give a fluorescent compd. suitable for labeling of mouse IgG anti-AFP.				
ST	dipyrrometheneboron difluoride fluorescent biomol labeling dye prodn hydrophilic				
IT	Fluorescent dyes Fluorescent indicators (prodn. of hydrophilic dipyrrometheneboron difluoride fluorescent biomol. labeling dyes)				
IT	<b>485393-58-6P 485397-10-2P</b> RL: BUU (Biological use, unclassified); <b>IMF (Industrial manufacture)</b> ; BIOL (Biological study); <b>PREP (Preparation)</b> ; USES (Uses) (dye; prodn. of hydrophilic dipyrrometheneboron difluoride fluorescent biomol. labeling dyes)				
IT	<b>485393-57-5P</b> RL: BUU (Biological use, unclassified); <b>IMF (Industrial</b>				

**manufacture**); RCT (Reactant); BIOL (Biological study); **PREP**  
**(Preparation)**; RACT (Reactant or reagent); USES (Uses)  
 (dye; prodn. of hydrophilic **dipyrrometheneboron**  
 difluoride fluorescent biomol. labeling **dyes**)

IT 87047-24-3P 485393-56-4P 485393-63-3P

485393-64-4P 485397-09-9P

RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP**

**(Preparation)**; RACT (Reactant or reagent)

(intermediate; prodn. of hydrophilic **dipyrrometheneboron**  
 difluoride fluorescent biomol. labeling **dyes**)

IT 485393-59-7P 485393-60-0P 485393-61-1P

485393-62-2P 485393-65-5P 485393-66-6P

RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**

(prodn. of hydrophilic **dipyrrometheneboron** difluoride  
 fluorescent biomol. labeling **dyes**)

IT 107-15-3, Ethylenediamine, reactions 107-35-7, Taurine  
 463-71-8, Thiophosgene 6066-82-6, N-Hydroxysuccinimide 13472-00-9,  
 4-(2-Aminoethyl)aniline 32886-55-8 209112-21-0 485393-55-3  
 485396-99-4 485397-11-3 485397-12-4 485397-13-5 485397-14-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material; prodn. of hydrophilic **dipyrrometheneboron**  
 difluoride fluorescent biomol. labeling **dyes**)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; Molecular Probes, CHEMCATS Accession No 2000:175375,  
<http://www.probes.com/handbook/print/0104.html>
- (2) Ariad Pharmaceuticals Inc; WO 9739326 A2 1997 HCAPLUS
- (3) Giese, R; US 5512486 A 1996 HCAPLUS
- (4) Hans-Peter, J; US 5958783 A 1999 HCAPLUS
- (5) Molecular Probes Inc; WO 9309185 A1 1993 HCAPLUS
- (6) Pekka, H; Nature Biotechnology 2000, V18, P548
- (7) Wagner, D; US 4489165 A 1984 HCAPLUS
- (8) Worries, H; Recl Trav Chim Pays-Bas 1985, V104, P288 HCAPLUS
- (9) Yu-Zhong; US 5869689 A 1999 HCAPLUS

IT 485393-58-6P 485397-10-2P

RL: BUU (Biological use, unclassified); **IMF (Industrial**  
**manufacture)**; BIOL (Biological study); **PREP (Preparation)**;  
 USES (Uses)

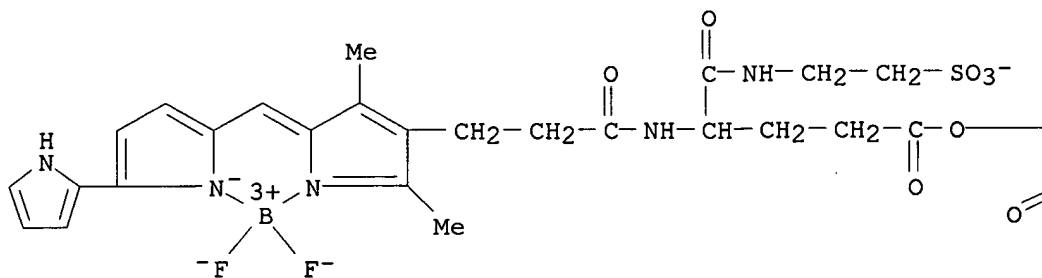
(dye; prodn. of hydrophilic **dipyrrometheneboron**  
 difluoride fluorescent biomol. labeling **dyes**)

RN 485393-58-6 HCAPLUS

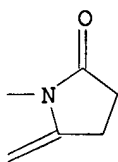
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 (CA INDEX NAME)



PAGE 1-A

● H<sup>+</sup>

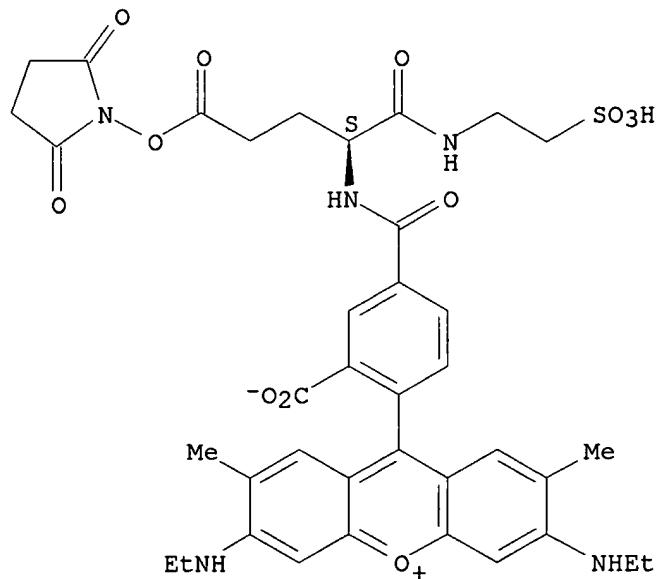
PAGE 1-B



RN 485397-10-2 HCAPLUS

CN Xanthylum, 9-[2-carboxy-4-[[[(1S)-4-[(2,5-dioxo-1-pyrrolidinyl)oxy]-4-oxo-1-[[[(2-sulfoethyl)amino]carbonyl]butyl]amino]carbonyl]phenyl]-3,6-bis(ethylamino)-2,7-dimethyl-, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

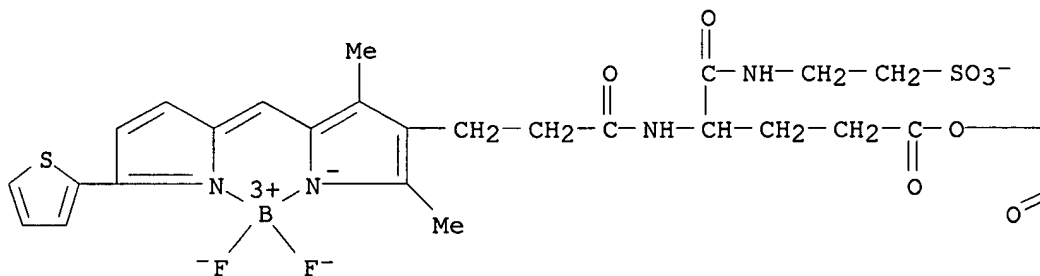


IT 485393-57-5P

RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); RCT (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (dye; prodn. of hydrophilic dipyrrometheneboron difluoride fluorescent biomol. labeling dyes)

RN 485393-57-5 HCAPLUS

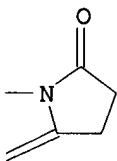
CN Borate(1-), [2-[[[(2S)-2-[[3-[2,4-dimethyl-5-[[5-(2-thienyl)-2H-pyrrol-2-ylidene-.kappa.N]methyl]-1H-pyrrol-3-yl-.kappa.N]-1-oxopropyl]amino]-5-[(2,5-dioxo-1-pyrrolidinyl)oxy]-1,5-dioxopentyl]amino]ethanesulfonato(2-)]difluoro-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)



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O H<sup>+</sup>

PAGE 1-B



IT 87047-24-3P 485393-56-4P 485393-63-3P

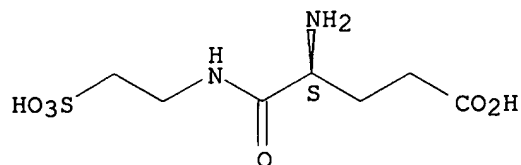
485393-64-4P 485397-09-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (intermediate; prodn. of hydrophilic dipyrrometheneboron difluoride fluorescent biomol. labeling dyes)

RN 87047-24-3 HCAPLUS

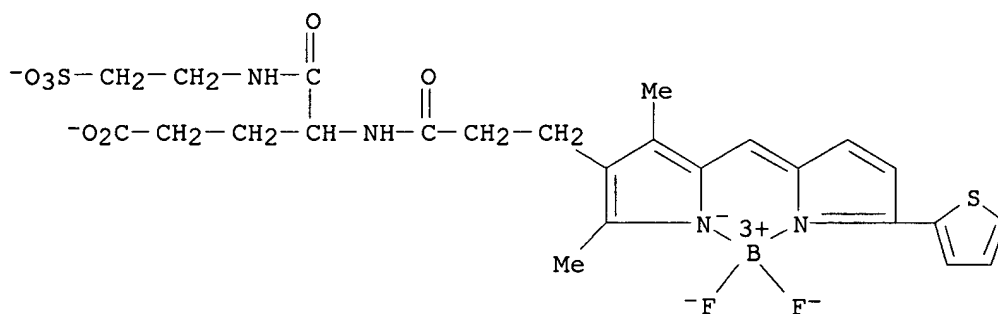
CN Pentanoic acid, 4-amino-5-oxo-5-[(2-sulfoethyl)amino]-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 485393-56-4 HCAPLUS

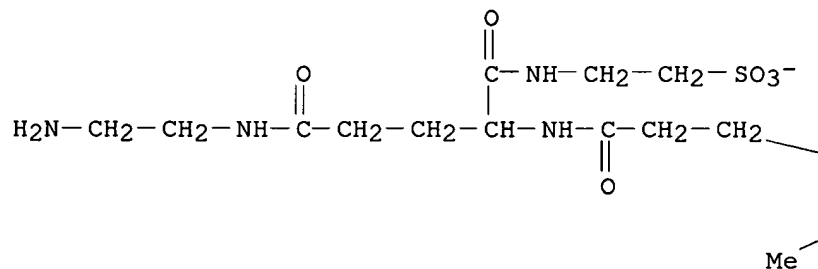
CN Borate(2-), [(4S)-4-[[3-[2,4-dimethyl-5-[[5-(2-thienyl)-2H-pyrrol-2-ylidene-.kappa.N]methyl]-1H-pyrrol-3-yl-.kappa.N]-1-oxopropyl]amino]-5-oxo-5-[(2-sulfoethyl)amino]pentanoato(3-)]difluoro-, dihydrogen, (T-4)- (9CI)  
(CA INDEX NAME)


$$\text{O}_2 \quad \text{H}^+$$

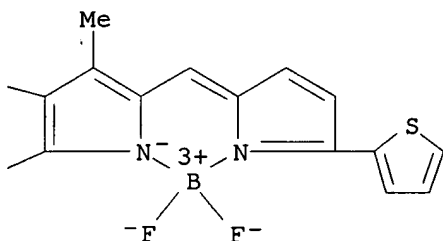
RN 485393-63-3 HCAPLUS

CN Borate(1-), [2-[[ (2S)-5-[ (2-aminoethyl) amino]-2-[ [3-[2,4-dimethyl-5-[ [5-(2-thienyl)-2H-pyrrol-2-ylidene-.kappa.N]methyl]-1H-pyrrol-3-yl-.kappa.N]-1-oxopropyl] amino]-1,5-dioxopentyl] amino]ethanesulfonato(2-)]difluoro-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)

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 $\text{O H}^+$

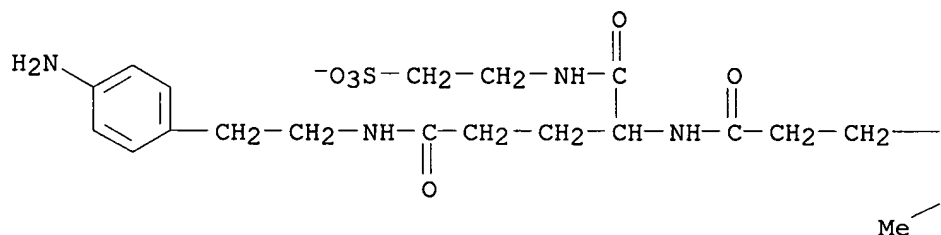
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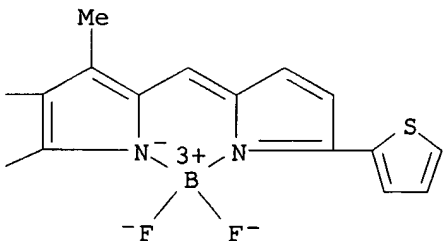
RN 485393-64-4 HCAPLUS

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PAGE 1-A

O H<sup>+</sup>

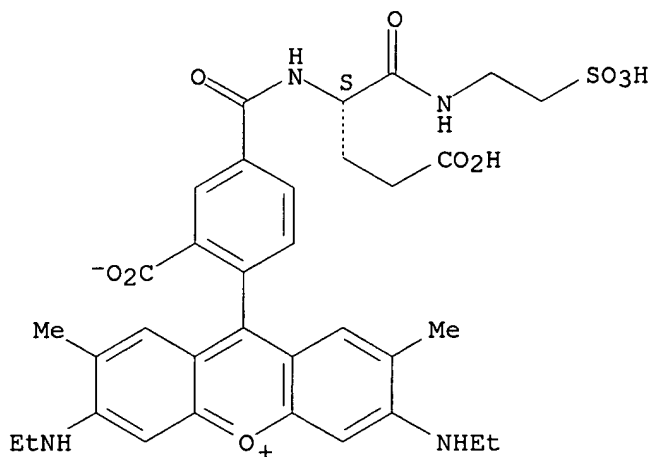
PAGE 1-B



RN 485397-09-9 HCAPLUS

CN Xanthylum, 9-[2-carboxy-4-[[[(1S)-3-carboxy-1-[[2-sulfoethyl]amino]carbonyl]propyl]amino]carbonyl]phenyl]-3,6-bis(ethylamino)-2,7-dimethyl-, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 485393-59-7P 485393-60-0P 485393-61-1P

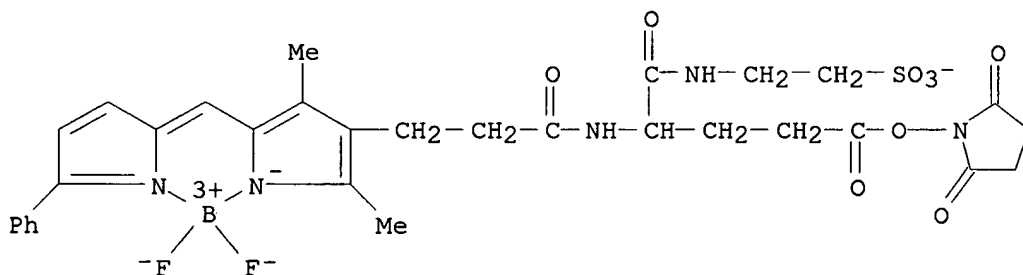
485393-62-2P 485393-65-5P 485393-66-6P

RL: IMF (Industrial manufacture); PREP (Preparation)

(prodn. of hydrophilic dipyrrometheneboron difluoride  
fluorescent biomol. labeling dyes)

RN 485393-59-7 HCAPLUS

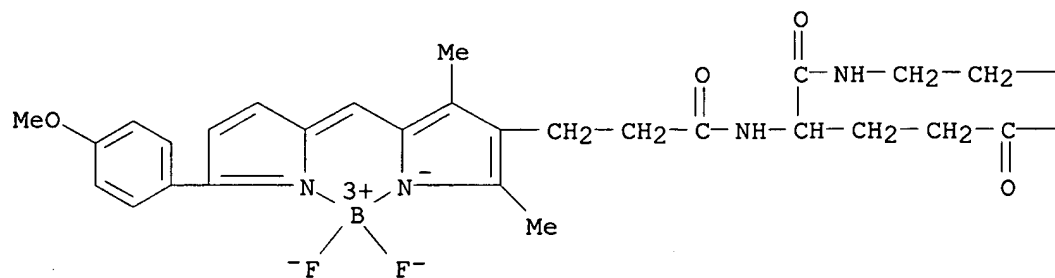
CN Borate(1-), [2-[[[(2S)-2-[[3-[2,4-dimethyl-5-[(5-phenyl-2H-pyrrol-2-ylidene-.kappa.N)methyl]-1H-pyrrol-3-yl-.kappa.N]-1-oxopropyl]amino]-5-[(2,5-dioxo-1-pyrrolidinyl)oxy]-1,5-dioxopentyl]amino]ethanesulfonato(2-)]difluoro-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)

⊙ H<sup>+</sup>

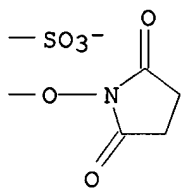
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PAGE 1-A

● H<sup>+</sup>

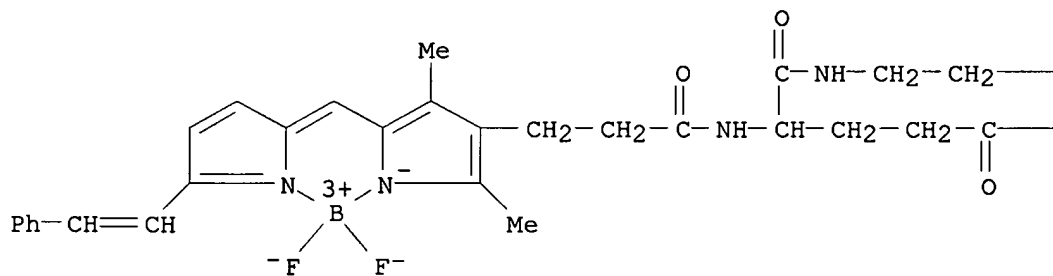
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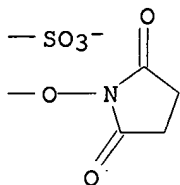
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(CA INDEX NAME)

PAGE 1-A

● H<sup>+</sup>

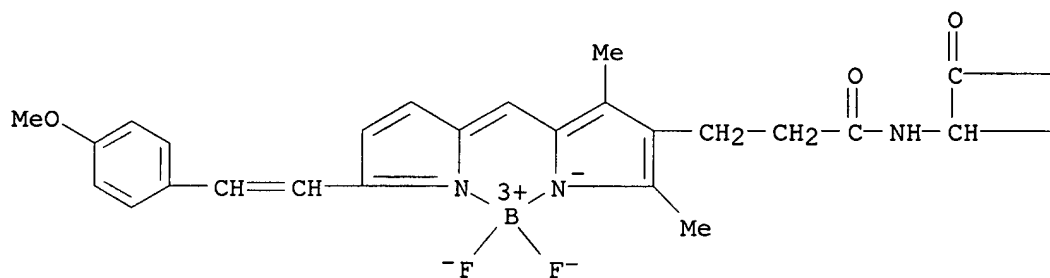
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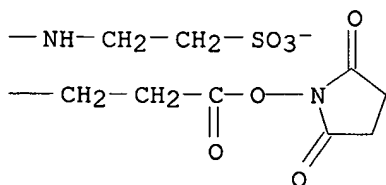
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(CA INDEX NAME)

PAGE 1-A

O H<sup>+</sup>

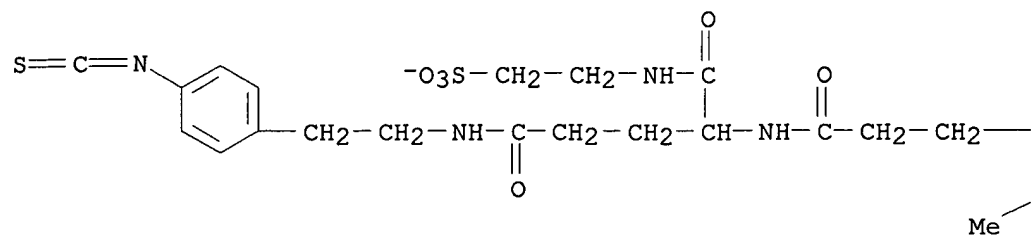
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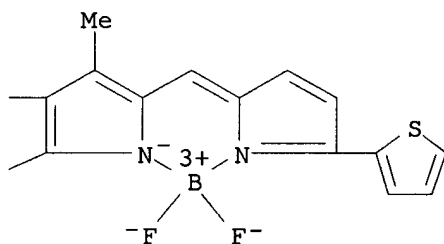
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PAGE 1-A

O H<sup>+</sup>

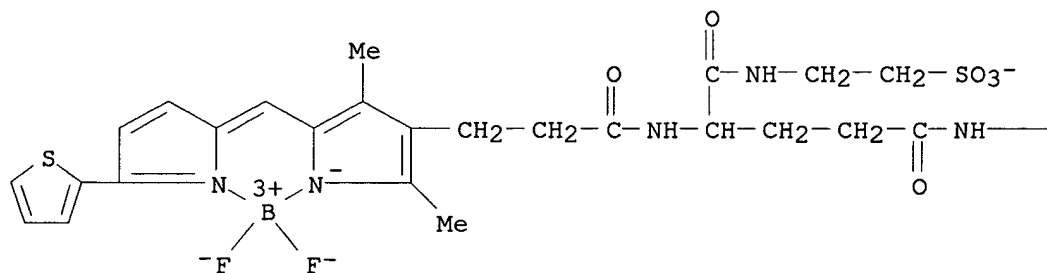
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RN 485393-66-6 HCAPLUS

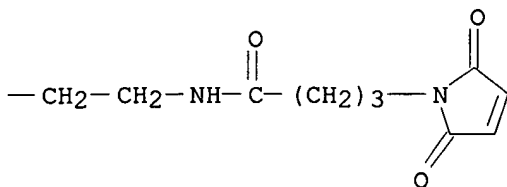
CN Borate(1-), [2-[[[(2S)-5-[[2-[[4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-1-oxobutyl]amino]ethyl]amino]-2-[[3-[2,4-dimethyl-5-[[5-(2-thienyl)-2H-pyrrol-2-ylidene-.kappa.N]methyl]-1H-pyrrol-3-yl-.kappa.N]-1-oxopropyl]amino]-1,5-dioxopentyl]amino]ethanesulfonato(2-)]difluoro-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A

O H<sup>+</sup>



PAGE 1-B



IT 107-35-7, Taurine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (starting material; prodn. of hydrophilic dipyrrometheneboron  
 difluoride fluorescent biomol. labeling **dyes**)  
 RN 107-35-7 HCAPLUS  
 CN Ethanesulfonic acid, 2-amino- (9CI) (CA INDEX NAME)

H<sub>2</sub>N-CH<sub>2</sub>-CH<sub>2</sub>-SO<sub>3</sub>H

L48 ANSWER 3 OF 28 HCAPLUS COPYRIGHT 2003 ACS  
 AN 2002:833112 HCAPLUS  
 DN 137:343938  
 TI Optical data carrier comprising a hemicyanine dye in the information layer  
 as light-absorbing compound  
 IN Berneth, Horst; Bruder, Friedrich-Karl; Haese, Wilfried; Hagen, Rainer;  
 Hassenrueck, Karin; Kostromine, Serguei; Landenberger, Peter; Oser,  
 Rafael; Sommermann, Thomas; Stawitz, Josef-Walter; Bieringer, Thomas  
 PA Bayer Aktiengesellschaft, Germany  
 SO PCT Int. Appl., 52 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA German  
 IC ICM G11B007-24  
 ICS C09B023-00; C09B023-14; C09B023-10  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
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 Section cross-reference(s): 41  
 FAN.CNT 14

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DE 10117462 A1 20021010 DE 2001-10117462 20010406  
DE 10136064 A1 20030213 DE 2001-10136064 20010725  
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US 2003054291 A1 20030320 US 2002-102282 20020320

PRAI DE 2001-10115227 A 20010328  
DE 2001-10117462 A 20010406  
DE 2001-10136064 A 20010725

OS MARPAT 137:343938

AB The invention relates to an optical data support, comprising a preferably transparent substrate, optionally already coated with one or several reflective layers, with an information layer, which may be written to by means of light, optionally one or several reflective layers, and optionally a protective layer, or a further substrate or a covering layer applied to the surface thereof. The support may be written to and read from by means of blue or red light, preferably laser light. The information layer contains at least one hemicyanine dye with light absorption max. of 420-650 nm as light-absorbing compd. and, optionally, a binder.

ST hemicyanine dye light absorber information layer optical disk

IT Optical disks  
(hemicyanine dye as light-absorbing compd. in information layer of optical data carrier)

IT Cyanine dyes  
(hemicyanine; hemicyanine dye as light-absorbing compd. in information layer of optical data carrier)

IT 117-92-0P 959-81-9P 2156-29-8P 6359-45-1P 88519-72-6P  
202063-08-9P 467222-68-0P 474087-27-9P 474087-28-0P 474087-30-4P  
474087-32-6P 474087-34-8P 474087-36-0P **474087-37-1P**  
474087-39-3P 474087-41-7P 474087-42-8P 474087-44-0P 474087-46-2P  
474087-48-4P 474087-50-8P 474087-51-9P 474087-53-1P 474087-55-3P  
474087-57-5P 474087-58-6P 474087-59-7P 474093-52-2P

RL: DEV (Device component use); PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(hemicyanine dye as light-absorbing compd. in information layer of optical data carrier)

IT 13755-29-8, Sodium **tetrafluoroborate**

RL: RCT (Reactant); RACT (Reactant or reagent)

(**reactant** for **dye** prepn.; hemicyanine **dye** as light-absorbing compd. in information layer of optical data carrier)

IT 118-12-7 3680-93-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material for dye prepn.; hemicyanine dye as light-absorbing compd. in information layer of optical data carrier)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; PATENT ABSTRACTS OF JAPAN 1993, V017(324), PM-1433
- (2) Anon; PATENT ABSTRACTS OF JAPAN 1998, V1998(11)
- (3) Anon; PATENT ABSTRACTS OF JAPAN 1999, V1999(05)
- (4) Hayashibara Biochem Lab; EP 1191526 A 2002 HCAPLUS
- (5) Kanno, T; US 6103331 A 2000
- (6) Matsushita Electric Ind Co Ltd; JP 11034497 A 1999 HCAPLUS
- (7) Mitsui Chem Inc; JP 10151854 A 1998 HCAPLUS
- (8) Nippon Columbia Co Ltd; JP 05038878 A 1993 HCAPLUS
- (9) Samsung Electronics Co Ltd; EP 1156084 A 2001 HCAPLUS

IT 474087-37-1P

RL: DEV (Device component use); PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(hemicyanine dye as light-absorbing compd. in information layer of optical data carrier)

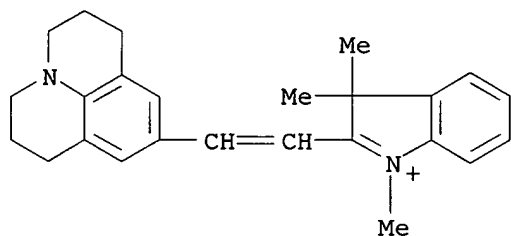
RN 474087-37-1 HCAPLUS

CN 3H-Indolium, 1,3,3-trimethyl-2-[2-(2,3,6,7-tetrahydro-1H,5H-benzo[ij]quinolizin-9-yl)ethenyl]-, 1-butanesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 51980-44-0

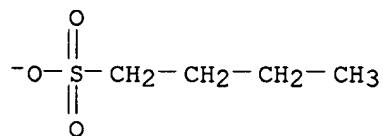
CMF C25 H29 N2



CM 2

CRN 24613-77-2

CMF C4 H9 O3 S



L48 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:650095 HCAPLUS

DN 137:187011

TI Method for preparation of dyes by condensation of two dyes with different chromophore

IN Kobayashi, Suguru

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C09B023-00  
 ICS C09B023-00; G03C001-12  
 CC 41-11 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and  
 Photographic Sensitizers)  
 Section cross-reference(s): 28, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002241632	A2	20020828	JP 2001-40716	20010216
PRAI	JP 2001-40716		20010216		
OS	CASREACT 137:187011; MARPAT 137:187011				
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The dyes are prep'd. with high yield by **reaction** of a **dye**  
 having a first chromophore and a dye having a second chromophore in the  
 presence of YP+X1X2X3 (X1-X3 = substituent; Y = leaving group). The dyes  
 are useful as photog. sensitizers for silver halide photog. materials (no  
 data). Thus, I was prep'd. in 85% yield by **reaction** of a cyanine  
**dye** with a merocyanine dye in the presence of II.

ST **phosphonium** comp'd photog sensitizer dye prepn; silver halide  
 photog sensitizer dye

IT Cyanine dyes  
 Cyanine dyes  
 Photographic sensitizers  
 (prepn. of photog. sensitizers for silver halide photog. materials)

IT **Phosphonium** compounds  
 RL: RGT (Reagent); RACT (Reactant or reagent)  
 (prepn. of photog. sensitizers for silver halide photog. materials)

IT **450374-84-2P**  
 RL: **IMF (Industrial manufacture); PREP (Preparation)**  
 (prepn. of photog. sensitizers for silver halide photog. materials)

IT 450374-82-0 **450374-83-1**  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (prepn. of photog. sensitizers for silver halide photog. materials)

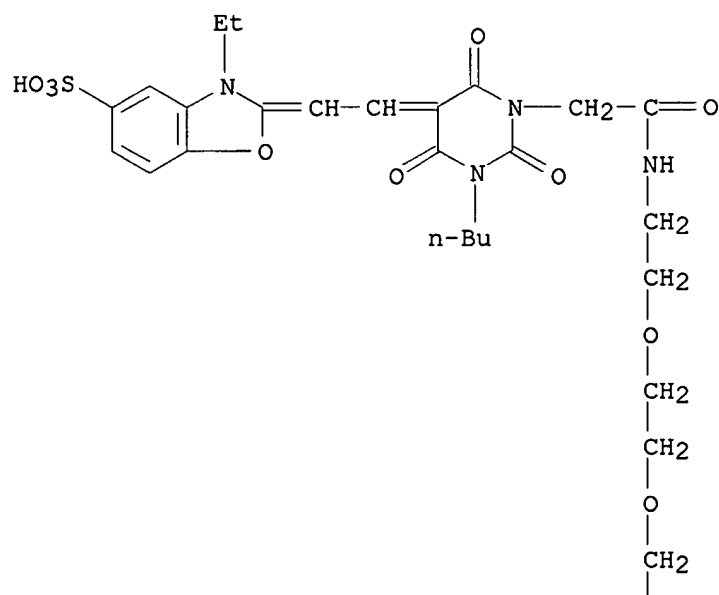
IT 128625-52-5  
 RL: RGT (Reagent); RACT (Reactant or reagent)  
 (prepn. of photog. sensitizers for silver halide photog. materials)

IT **450374-84-2P**  
 RL: **IMF (Industrial manufacture); PREP (Preparation)**  
 (prepn. of photog. sensitizers for silver halide photog. materials)

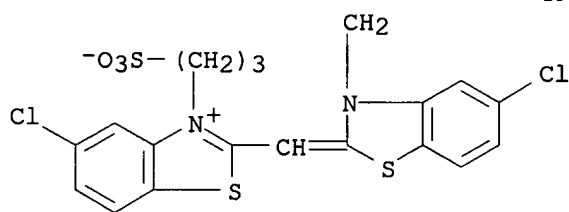
RN 450374-84-2 HCAPLUS

CN Benzothiazolium, 2-[[[3-[2-[2-[2-[[[3-butyl-5-[(3-ethyl-5-sulfo-2(3H)-  
 benzoxazolylidene)ethylidene]tetrahydro-2,4,6-trioxo-1(2H)-  
 pyrimidinyl]acetyl]amino]ethoxy]ethoxy]ethyl]-5-chloro-2(3H)-  
 benzothiazolylidene]methyl]-5-chloro-3-(3-sulfopropyl)-, inner salt,  
 monosodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



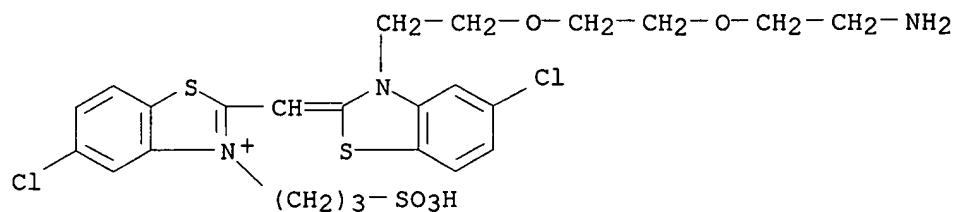
O Na

IT 450374-83-1

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (prepn. of photog. sensitizers for silver halide photog. materials)

RN 450374-83-1 HCAPLUS

CN Benzothiazolium, 2-[[3-[2-[2-(2-aminoethoxy)ethoxy]ethyl]-5-chloro-2(3H)-benzothiazolylidene]methyl]-5-chloro-3-(3-sulfopropyl)-, chloride (9CI)  
 (CA INDEX NAME)



○ Cl<sup>-</sup>

L48 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:368351 HCAPLUS

DN 136:366118

TI Non-isotopic detection of osteoblastic activity in vivo using modified bisphosphonates

IN Frangioni, John V.

PA Beth Israel Deaconess Medical Center, USA

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K049-00

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 8, 13, 41

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002038190	A2	20020516	WO 2001-US51312	20011029
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG AU 2002036683 A5 20020521 AU 2002-36683 20011029				
PRAI US 2000-244020P	P	20001027		
WO 2001-US51312	W	20011029		

OS MARPAT 136:366118

AB The present invention is directed to a non-isotopic methods for the in vitro and in vivo detection of hydroxyapatite-pos. cells and structures. The NHS ester of the near-IR fluorophore IRDye78 was conjugated with pamidronate disodium to make Pam78. Pam78 was used in near-IR fluorescence imaging of hydroxyapatite in hairless mice. As early as 15 min post-injection, Pam78 uptake in the spine, ribs, paws, and knees could be detected above background, and by three hours, most bony structures were visible.

ST nonisotopic detection osteoblast activity modified bisphosphonate; hydroxyapatite detection modified bisphosphonate; skeleton near IR fluorescence imaging pamidronate conjugate IRDye78

IT Animal tissue  
(contg. hydroxyapatite, imaging of; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Imaging agents  
(contrast, fluorescent; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Osteoporosis  
(diagnosis of; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Risk assessment  
(for bone fracture; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Bone, disease  
(fracture, risk for; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Cell  
(hydroxyapatite-pos., detection of; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Dyes  
(indocyanine, polysulfonates; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Neoplasm  
(metastasis, osteoblastic; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Calcification  
(micro-, detection of vessel; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Blood vessel  
(microcalcification of, detection of; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Skeleton  
(near-IR fluorescence imaging of growing; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Imaging  
(near-IR fluorescence; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Fluorescent dyes  
(near-IR, in bisphosphonate contrast agent; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Bone  
Fluorescent dyes  
Human  
Osteoblast  
Test kits  
(nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

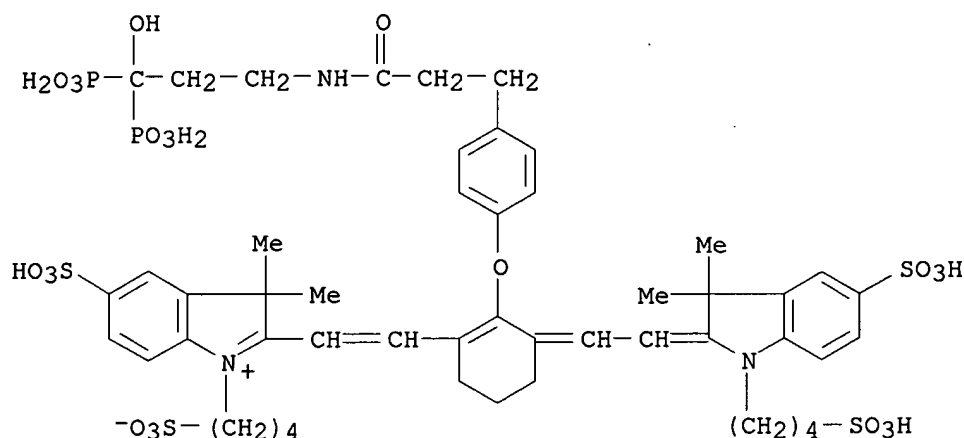
IT Diagnosis  
(of osteoporosis or bone diseases having abnormality of calcium hydroxyapatite; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT Bone, disease  
(with abnormality of calcium hydroxyapatite; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)

IT **424821-77-2P**  
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); PKT (Pharmacokinetics); PRP (Properties); **SPN (Synthetic preparation)**; ANST (Analytical study); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)

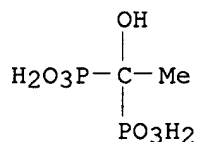
- (Pam 78; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)
- IT 1306-06-5, Hydroxyapatite  
 RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)  
 (detection of cells and structures pos. for; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)
- IT **2809-21-4D**, conjugates with near-IR fluorescent moiety  
 10596-23-3D, conjugates with near-IR fluorescent moiety 13598-36-2D, Phosphonic acid, alkylidenebis- derivs. 13598-36-2D, Phosphonic acid, conjugates with near-IR fluorescent moiety 40391-99-9D, Pamidronic acid, conjugates with near-IR fluorescent moiety 63132-39-8D, Olpadronic acid, conjugates with near-IR fluorescent moiety 66376-36-1D, Alendronate, conjugates with near-IR fluorescent moiety 79778-41-9D, Neridronate, conjugates with near-IR fluorescent moiety 89987-06-4D, Tiludronate, conjugates with near-IR fluorescent moiety 105462-24-6D, conjugates with near-IR fluorescent moiety 114084-78-5D, Ibandronate, conjugates with near-IR fluorescent moiety 118072-93-8D, Zoledronate, conjugates with near-IR fluorescent moiety 124351-85-5D, Incadronic acid, conjugates with near-IR fluorescent moiety 125946-91-0D, conjugates with near-IR fluorescent moiety 180064-38-4D, YH 529, conjugates with near-IR fluorescent moiety  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)
- IT 57248-88-1, Pamidronate disodium 398142-13-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)
- IT **424821-77-2P**  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); PKT (Pharmacokinetics); PRP (Properties); **SPN (Synthetic preparation)**; ANST (Analytical study); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)  
 (Pam 78; nonisotopic detection of osteoblastic activity in vivo using modified bisphosphonates)
- RN 424821-77-2 HCAPLUS
- CN 3H-Indolium, 2-[2-[3-[[1,3-dihydro-3,3-dimethyl-5-sulfo-1-(4-sulfobutyl)-2H-indol-2-ylidene]ethylidene]-2-[4-[3-[(3-hydroxy-3,3-diphosphonopropyl)amino]-3-oxopropyl]phenoxy]-1-cyclohexen-1-yl]ethenyl]-3,3-dimethyl-5-sulfo-1-(4-sulfobutyl)-, inner salt, pentasodium salt (9CI)  
 (CA INDEX NAME)





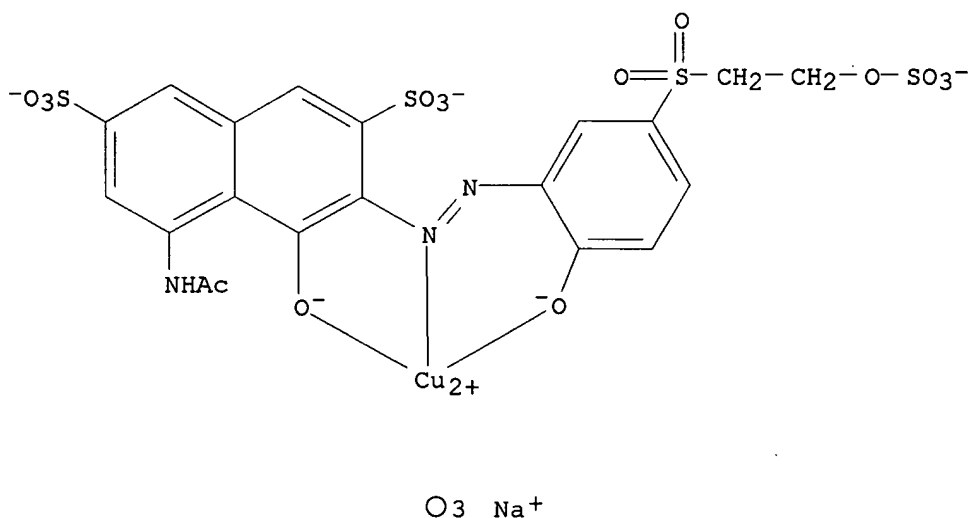
O5 Na

IT **2809-21-4D**, conjugates with near-IR fluorescent moiety  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (nonisotopic detection of osteoblastic activity in vivo using modified  
 bisphosphonates)  
 RN 2809-21-4 HCAPLUS  
 CN Phosphonic acid, (1-hydroxyethylidene)bis- (9CI) (CA INDEX NAME)



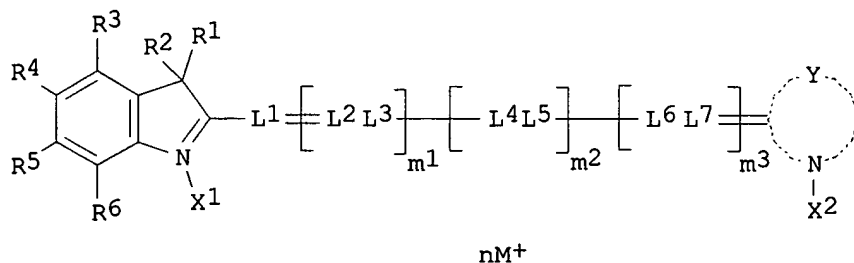
L48 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2003 ACS  
 AN 2002:359272 HCAPLUS  
 DN 137:338990  
 TI Effect of borates and of biologically active substances on the effective  
 dyeing of cellulose materials by direct and active dyes  
 AU Safonov, V. V.; Shkurikhin, I. M.  
 CS KHTVM, Mosk. Gos. Univ., Moscow, Russia  
 SO Tekstil'naya Promyshlennost (Moscow, Russian Federation) (2002), (2),  
 21-22  
 CODEN: TTLPA2; ISSN: 0040-2397  
 PB OOO Izdatel'skaya Firma "Tekstil'naya Promyshlennost"  
 DT Journal  
 LA Russian  
 CC 40-6 (Textiles and Fibers)  
 AB Sorption of direct dyes of various structure in dyeing of cotton fabrics  
 was studied in the presence of sodium tetraborate used before in the  
 course of or after dyeing. Dyeing technol. has greater effect on dye  
 sorption than the nature of the dye. **Reactive dyeing**  
 of cellulosic fabrics was studied in relation to amylolytic enzyme effect.  
 ST direct dyeing cotton sodium tetraborate; **reactive dyeing**

- amylolytic enzyme amino acid cellulosic linen fabric
- IT Albumins, uses  
Amino acids, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(effect of amino acids on direct and **reactive dyeing** of cellulosic fabrics)
- IT Direct dyeing  
**Reactive dyeing**  
(effect of sodium tetraborate and amylolytic enzymes on direct and **reactive dyeing** of cellulosic fabrics)
- IT Enzymes, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(effect of sodium tetraborate and amylolytic enzymes on direct and **reactive dyeing** of cellulosic fabrics)
- IT 52-90-4, Cysteine, uses 56-86-0, Glutamic acid, uses 60-18-4, L-Tyrosine, uses 107-95-9, .beta.-Alanine  
RL: NUU (Other use, unclassified); USES (Uses)  
(effect of amino acids on direct and **reactive dyeing** of cellulosic fabrics)
- IT 1330-43-4, Sodium tetraborate **12769-08-3**, Reactive Red Violet 2KT 12772-27-9, Reactive Scarlet 4ZhT 39363-34-3, Direct Lightfast Yellow O 56646-12-9, Reactive Violet 4K 74504-58-8, Direct orange 79748-98-4, Reactive Red 6S 85875-39-4, Direct Diazo Scarlet 108778-73-0, Reactive Turquoise 2ZT 139691-58-0, Amylosubtilin G  
RL: NUU (Other use, unclassified); USES (Uses)  
(effect of sodium **tetraborate** and amylolytic enzymes on direct and **reactive dyeing** of cellulosic fabrics)
- IT **12769-08-3**, Reactive Red Violet 2KT  
RL: NUU (Other use, unclassified); USES (Uses)  
(effect of sodium **tetraborate** and amylolytic enzymes on direct and **reactive dyeing** of cellulosic fabrics)
- RN 12769-08-3 HCAPLUS
- CN Cuprate(3-), [5-(acetyl-amino)-4-(hydroxy-.kappa.O)-3-[[2-(hydroxy-.kappa.O)-5-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]azo-.kappa.N1]-2,7-naphthalenedisulfonato(5-)]-, trisodium (9CI) (CA INDEX NAME)



FAN.CNT 1

PATENT NO.		KIND	DATE	APPLICATION NO.		DATE
PI	WO 2002012398	A1	20020214	WO 2001-JP6689	20010803	
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
	AU 2001076723	A5	20020218	AU 2001-76723	20010803	
	EP 1308480	A1	20030507	EP 2001-954430	20010803	
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR					
PRAI	JP 2000-240144	A	20000808			
	JP 2000-240145	A	20000808			
	JP 2000-331018	A	20001030			
	JP 2001-87914	A	20010326			
	WO 2001-JP6689	W	20010803			
OS	MARPAT 136:191625					
GI						



AB The invention relates to cyanine dye compds. of the general formula I (R1, R2 = alkyl, aryl; R3-6 = H, alkyl, aryl, heteroaryl, halo, cyano, carboxyl, sulfo; X1, X2 = C1-15 alkyl, aryl, with the proviso that the total no. of carboxyl groups present in X1 and X2 is four or below; m1,

m2, m3 = 0, 1; L1-7 = methine; M = H, metal, quaternary ammonium salt; Y = nonmetal elements necessary for forming 5- to 10-membered heterocycle; n = 1-7 for neutralizing the charge.) or salts thereof, useful in the prodn. of Ag halide photog. sensitive materials as filter dyes or as antihalation dyes.

ST cyanine dye synthesis filter antihalation silver halide photog material

IT Photographic films

(color; cyanine dyes suitable as filter or antihalation dyes in photog. elements)

IT Cyanine dyes

(cyanine dyes suitable as filter or antihalation dyes in photog. elements)

IT 398458-88-3P 398459-02-4P 398459-07-9P **398459-15-9P**

RL: DEV (Device component use); **SPN (Synthetic preparation);**

**PREP (Preparation);** USES (Uses)

(cyanine dyes suitable as filter or antihalation dyes in photog. elements)

IT 68-10-0, Bromoacetate 76-05-1, **reactions** 98-80-6, Dihydroxyphenylborane 108-24-7, Acetic anhydride 147-93-3, o-Mercaptobenzoic acid 563-80-4 598-72-1, 2-Bromopropionic acid 622-88-8, 4-Bromophenylhydrazine hydrochloride 1497-49-0 **1622-32-8**, 2-Chloroethanesulfonylchloride 1633-83-6, 1,4-Butanesultone 1640-39-7, 2,3,3-Trimethylindolenine 1791-13-5, L-Aspartic acid di-tert-butyl ester hydrochloride 1979-57-3, 1,7-Diaza-5-methyl-1,7-diphenyl-1,3,5-heptatriene monohydrochloride 1979-58-4 2067-33-6, 5-Bromovaleric acid 2243-47-2, 3-Aminobiphenyl 6165-68-0, 2-**Thiopheneboronic** acid 32677-01-3, L-Glutamic acid di-tert-butyl ester hydrochloride 41532-84-7 63857-00-1 84100-84-5 98546-51-1 132557-72-3 398459-19-3 398459-20-6 398459-21-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of cyanine **dyes** suitable as filter or antihalation dyes in photog. elements)

IT 6761-95-1P 54136-24-2P 95837-47-1P 109221-88-7P 180003-61-6P 294655-87-1P 325147-36-2P 398459-18-2P 398459-22-8P 398459-24-0P 398459-26-2P 398459-27-3P **398459-28-4P 398459-29-5P**

**398459-30-8P 398459-31-9P 398459-32-0P**

**398459-33-1P** 398459-34-2P

RL: RCT (Reactant); **SPN (Synthetic preparation); PREP**

**(Preparation);** RACT (Reactant or reagent)

(prepn. of cyanine dyes suitable as filter or antihalation dyes in photog. elements)

IT 398458-86-1P 398458-87-2P 398458-90-7P 398458-92-9P 398458-94-1P 398458-96-3P 398458-97-4P 398458-99-6P 398459-01-3P 398459-03-5P

398459-04-6P **398459-05-7P 398459-06-8P** 398459-08-0P

398459-09-1P 398459-10-4P **398459-11-5P 398459-12-6P**

**398459-13-7P 398459-14-8P 398459-16-0P**

**398459-17-1P**

RL: **SPN (Synthetic preparation);** TEM (Technical or engineered material use); **PREP (Preparation);** USES (Uses)

(prepn. of cyanine dyes suitable as filter or antihalation dyes in photog. elements)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Few Chemicals GmbH Wolfen; DE 19957007 A1 2001 HCAPLUS
- (2) Fuji Photo Film Co Ltd; JP 05307233 A 1993 HCAPLUS
- (3) Fuji Photo Film Co Ltd; EP 568022 A1 1993
- (4) Fuji Photo Film Co Ltd; JP 06316674 A 1994 HCAPLUS
- (5) Fuji Photo Film Co Ltd; JP 200094836 A 2000

- (6) Konica Corporation; JP 04358143 A 1992 HCAPLUS  
 (7) Mitsubishi Paper Mills Ltd; JP 695282 A 1994  
 (8) Mitsubishi Paper Mills Ltd; JP 10195319 A 1998 HCAPLUS

IT **398459-15-9P**

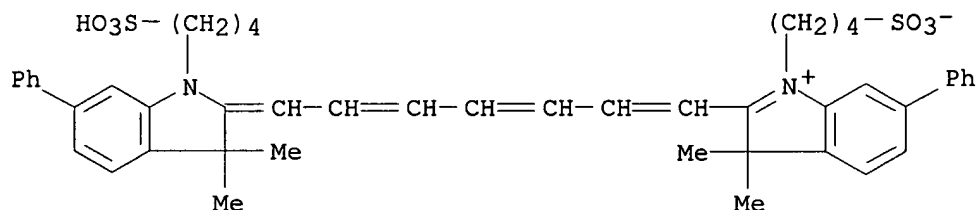
RL: DEV (Device component use); **SPN (Synthetic preparation);**

**PREP (Preparation);** USES (Uses)

(cyanine dyes suitable as filter or antihalation dyes in photog. elements)

RN 398459-15-9 HCAPLUS

CN 3H-Indolium, 2-[7-[1,3-dihydro-3,3-dimethyl-6-phenyl-1-(4-sulfobutyl)-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-6-phenyl-1-(4-sulfobutyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)



○ K

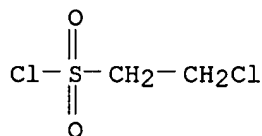
IT **1622-32-8**, 2-Chloroethanesulfonylchloride

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of cyanine **dyes** suitable as filter or antihalation dyes in photog. elements)

RN 1622-32-8 HCAPLUS

CN Ethanesulfonyl chloride, 2-chloro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **398459-28-4P 398459-29-5P 398459-30-8P**

**398459-31-9P 398459-32-0P 398459-33-1P**

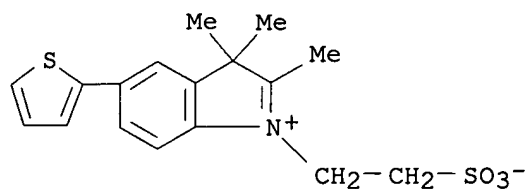
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP**

**(Preparation);** RACT (Reactant or reagent)

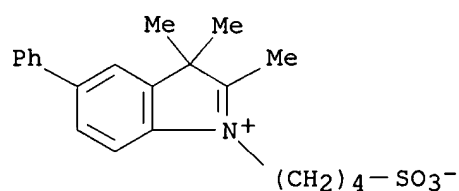
(prepn. of cyanine dyes suitable as filter or antihalation dyes in photog. elements)

RN 398459-28-4 HCAPLUS

CN 3H-Indolium, 2,3,3-trimethyl-1-(2-sulfoethyl)-5-(2-thienyl)-, inner salt (9CI) (CA INDEX NAME)

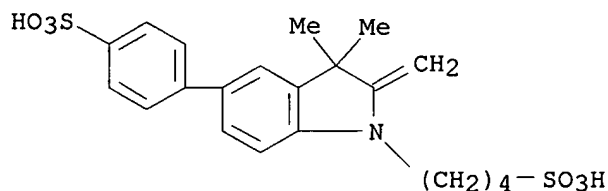


RN 398459-29-5 HCAPLUS

CN 3H-Indolium, 2,3,3-trimethyl-5-phenyl-1-(4-sulfobutyl)-, inner salt (9CI)  
(CA INDEX NAME)

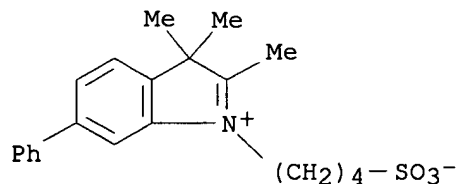
RN 398459-30-8 HCAPLUS

CN 1H-Indole-1-butanesulfonic acid, 2,3-dihydro-3,3-dimethyl-2-methylene-5-(4-sulfophenyl)-, disodium salt (9CI) (CA INDEX NAME)



O2 Na

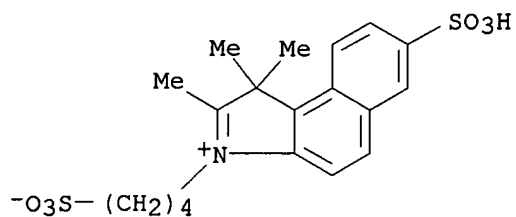
RN 398459-31-9 HCAPLUS

CN 3H-Indolium, 2,3,3-trimethyl-6-phenyl-1-(4-sulfobutyl)-, inner salt (9CI)  
(CA INDEX NAME)

RN 398459-32-0 HCAPLUS

CN 1H-Benz[e]indolium, 1,1,2-trimethyl-7-sulfo-3-(4-sulfobutyl)-, inner salt,

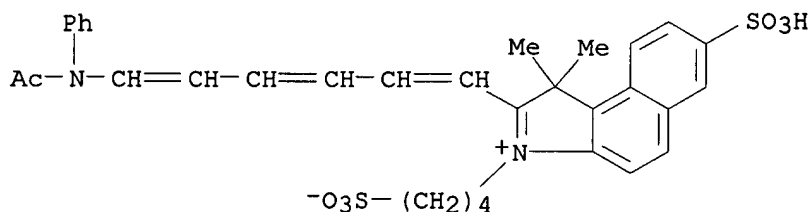
potassium salt (9CI) (CA INDEX NAME)



O K

RN 398459-33-1 HCAPLUS

CN 1H-Benz[e]indolium, 2-[6-(acetylphenylamino)-1,3,5-hexatrienyl]-1,1-dimethyl-7-sulfo-3-(4-sulfobutyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)



O K

IT 398459-05-7P 398459-06-8P 398459-11-5P  
 398459-12-6P 398459-13-7P 398459-14-8P  
 398459-16-0P 398459-17-1P

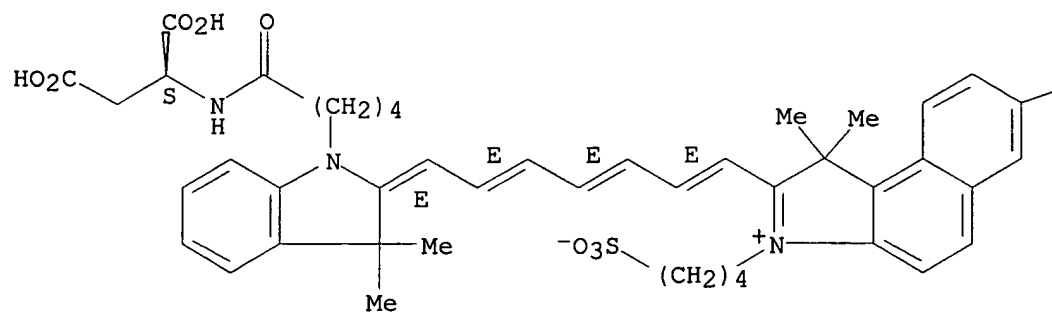
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (prepn. of cyanine dyes suitable as filter or antihalation dyes in photog. elements)

RN 398459-05-7 HCAPLUS

CN 1H-Benz[e]indolium, 2-[(1E,3E,5E,7E)-7-[1-[5-[[[(1S)-1,2-dicarboxyethyl]amino]-5-oxopentyl]-1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-7-sulfo-3-(4-sulfobutyl)-, inner salt, trisodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

PAGE 1-A



O3 Na

PAGE 1-B

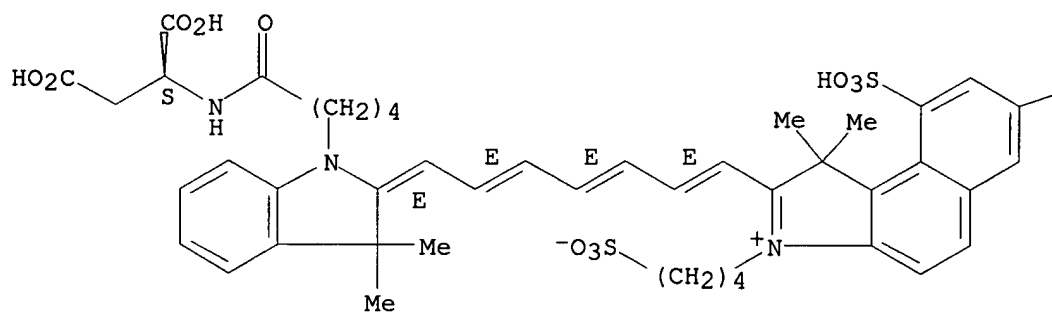
—SO<sub>3</sub>H

RN 398459-06-8 HCAPLUS

CN 1H-Benz[e]indolium, 2-[(1E,3E,5E,7E)-7-[1-[5-[[[(1S)-1,2-dicarboxyethyl]amino]-5-oxopentyl]-1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-7,9-disulfo-3-(4-sulfoethyl)-, inner salt, tetrasodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.

PAGE 1-A



O4 Na



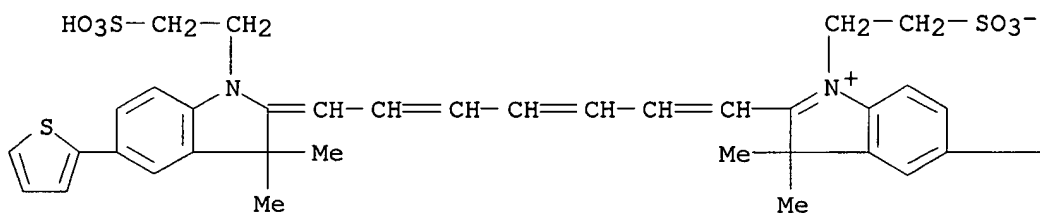
PAGE 1-B

—SO<sub>3</sub>H

RN 398459-11-5 HCAPLUS

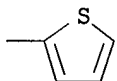
CN 3H-Indolium, 2-[7-[1,3-dihydro-3,3-dimethyl-1-(2-sulfoethyl)-5-(2-thienyl)-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-1-(2-sulfoethyl)-5-(2-thienyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)

PAGE 1-A



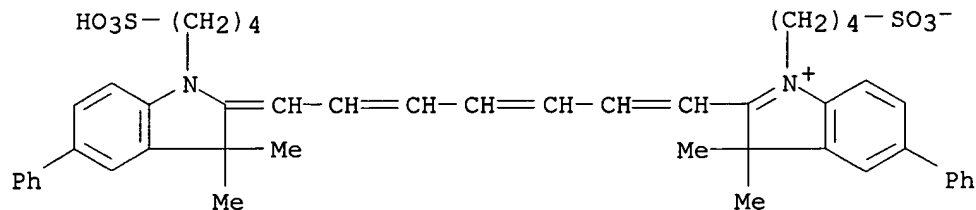
● K

PAGE 1-B



RN 398459-12-6 HCAPLUS

CN 3H-Indolium, 2-[7-[1,3-dihydro-3,3-dimethyl-5-phenyl-1-(4-sulfoethyl)-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-5-phenyl-1-(4-sulfoethyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)

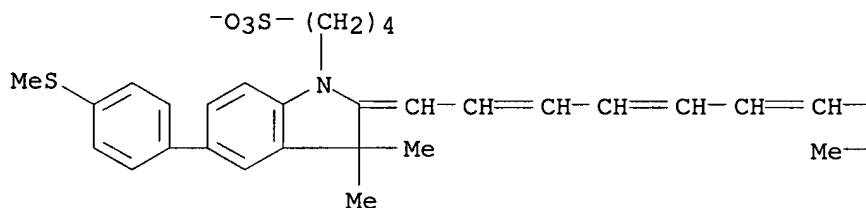


O K

RN 398459-13-7 HCAPLUS

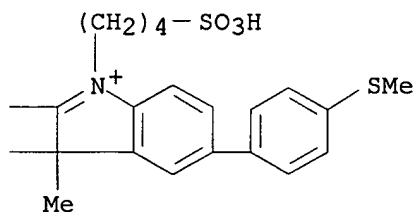
CN 3H-Indolium, 2-[7-[1,3-dihydro-3,3-dimethyl-5-[4-(methylthio)phenyl]-1-(4-sulfobutyl)-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-5-[4-(methylthio)phenyl]-1-(4-sulfobutyl)-, inner salt, potassium salt (9CI)  
(CA INDEX NAME)

PAGE 1-A



O K

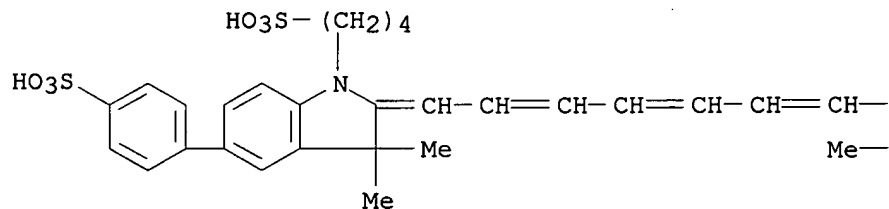
PAGE 1-B



RN 398459-14-8 HCAPLUS

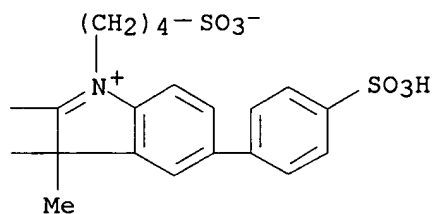
CN 3H-Indolium, 2-[7-[1,3-dihydro-3,3-dimethyl-1-(4-sulfobutyl)-5-(4-sulfophenyl)-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-1-(4-sulfobutyl)-5-(4-sulfophenyl)-, inner salt, tripotassium salt (9CI) (CA INDEX NAME)

PAGE 1-A



O3 K

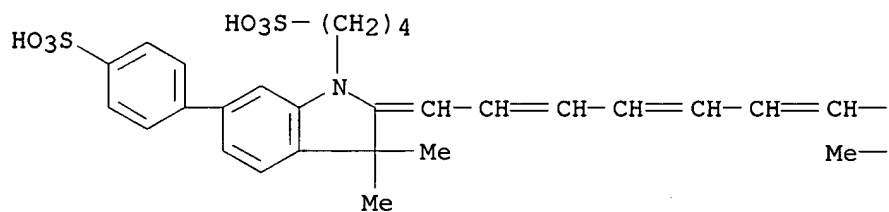
PAGE 1-B



RN 398459-16-0 HCAPLUS

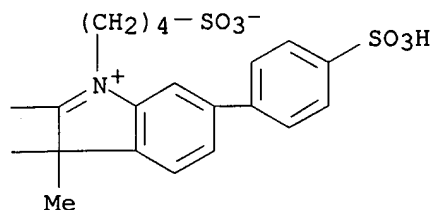
CN 3H-Indolium, 2-[7-[1,3-dihydro-3,3-dimethyl-1-(4-sulfobutyl)-6-(4-sulfophenyl)-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-1-(4-sulfobutyl)-6-(4-sulfophenyl)-, inner salt, tripotassium salt (9CI) (CA INDEX NAME)

PAGE 1-A



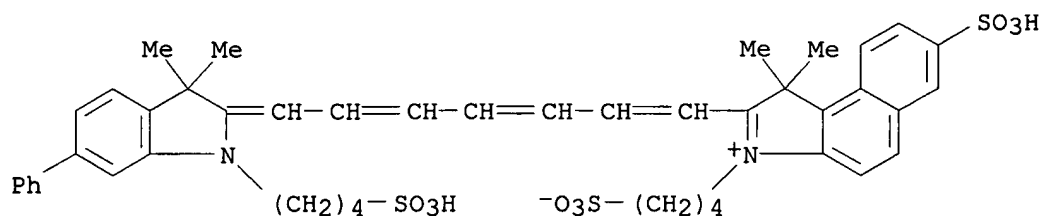
O3 K

PAGE 1-B



RN 398459-17-1 HCAPLUS

CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-3,3-dimethyl-6-phenyl-1-(4-sulfo-  
butyl)-2H-indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-7-sulfo-3-  
(4-sulfo-4-butyl)-, inner salt, dipotassium salt (9CI) (CA INDEX NAME)

 $\text{O}_2 \quad \text{K}$ 

L48 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:122962 HCAPLUS

DN 136:163717

TI Novel hydroxyquinoline derivative fluorescent dyes and their biological applications

IN Diwu, Zhenjun; Liu, Jiaxing; Haugland, Richard P.; Gee, Kyle R.

PA Molecular Probes, Inc., USA

SO PCT Int. Appl., 110 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07D221-12

ICS C07D487-04; C07D491-04; C07D491-22; C07D495-04; G01N033-48

CC 9-14 (Biochemical Methods)

Section cross-reference(s): 41

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002012195	A1	20020214	WO 2001-US24479	20010804
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,  
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2001079185 A5 20020218 AU 2001-79185 20010804  
US 2002059684 A1 20020523 US 2001-922333 20010804

PRAI US 2000-223086P P 20000804  
WO 2001-US24479 W 20010804

OS MARPAT 136:163717

AB The present invention describes novel dyes, including coumarins, rhodamines, and rhodols that incorporate addnl. fused arom. rings. The dyes of the invention absorb at a longer wavelength than structurally similar dyes that do not possess the fused arom. rings. Many of the dyes of the invention are useful fluorescent dyes. The invention includes chem. **reactive dyes**, **dye**-conjugates, and the use of such dyes in staining samples and detecting ligands or other analytes.

ST fluorescent dye synthesis protein DNA hybridization probe

IT Nucleic acid amplification (method)

(DNA; novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT Bacteria (Eubacteria)

(conjugates with fluorescent dyes; novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT Nucleotides, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)

(conjugates with fluorescent dyes; novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT Proteins

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(conjugates, with dyes; novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT Liposomes

(fluorescent; novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT Nucleic acid hybridization

(in situ; novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT Dyes

Fluorescent dyes

Nucleic acid hybridization

**Reactive dyes**

Staining, biological

(novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT Ligands

RL: ANT (Analyte); ANST (Analytical study)

(novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT Probes (nucleic acid)

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST

(Analytical study); PREP (Preparation); USES (Uses)

(novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT 397883-14-6P

RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)

(novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT 51207-30-8P **397882-73-4P** 397882-80-3P 397882-81-4P

397882-82-5P 397882-83-6P 397882-85-8P 397882-87-0P 397882-88-1P

397882-89-2P **397882-90-5P** **397882-90-5P** 397882-91-6P

397882-92-7P 397882-94-9P 397882-95-0P 397882-99-4P 397883-00-0P

397883-02-2P 397883-03-3P 397883-05-5P 397883-06-6P 397883-07-7P  
 397883-09-9P 397883-10-2P 397883-12-4P 397883-13-5P 397883-15-7P  
 397883-17-9P 397883-19-1P 397883-20-4P

RL: ARG (Analytical reagent use); **SPN (Synthetic preparation)**;

ANST (Analytical study); **PREP (Preparation)**; USES (Uses)

(novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

IT 108-59-8, Dimethylmalonate 302-01-2, Hydrazine, **reactions**  
 577-19-5, 2-Bromonitrobenzene 584-08-7 676-58-4 1122-58-3,  
 4-Dimethylaminopyridine 1643-19-2 3375-31-3 5344-78-5,  
 4-Bromo-3-nitroanisole 6165-68-0, Thiophene-2-**boronic** acid  
 6165-69-1, Thiophene-3-**boronic** acid 7087-68-5,  
 N,N-Diisopropylethylamine 10294-33-4 13331-23-2, Furan-2-  
**boronic** acid 16761-04-9, N,N-Dimethyl-3-hydroxy-4-nitrosoaniline  
 74124-79-1 87876-22-0D, Tosylate 93801-18-4 96315-11-6 98437-23-1  
 113893-08-6 191162-40-0 191418-53-8 397883-21-5 397883-22-6  
 397883-23-7 397883-24-8 397883-25-9 397883-26-0 397883-27-1  
 397883-28-2 397883-29-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(novel hydroxyquinoline deriv. fluorescent **dyes** and biol.  
 applications)

IT 31486-48-3P 397882-59-6P 397882-60-9P 397882-61-0P 397882-62-1P  
 397882-63-2P 397882-64-3P 397882-65-4P 397882-66-5P 397882-67-6P  
 397882-68-7P 397882-69-8P 397882-70-1P 397882-71-2P  
**397882-72-3P 397882-74-5P** 397882-75-6P 397882-76-7P  
 397882-77-8P 397882-78-9P 397882-79-0P 397882-84-7P 397882-93-8P  
 397882-96-1P 397882-97-2P 397882-98-3P 397883-01-1P 397883-04-4P  
 397883-08-8P 397883-11-3P 397883-16-8P 397883-18-0P

RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP**

(**Preparation**); RACT (Reactant or reagent)

(novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Camiener; US 5290706 A 1994
- (2) Kano; Heterocycles 1981, V15(2), P1011 HCAPLUS
- (3) Temciuc; Tetrahedron 1995, V51(48), P13185 HCAPLUS
- (4) Wang; US 4544546 A 1985 HCAPLUS
- (5) Yan; US 6140500 A 2000 HCAPLUS

IT **397882-73-4P 397882-90-5P**

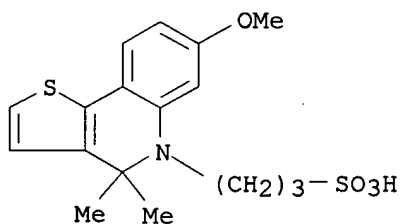
RL: ARG (Analytical reagent use); **SPN (Synthetic preparation)**;

ANST (Analytical study); **PREP (Preparation)**; USES (Uses)

(novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

RN 397882-73-4 HCAPLUS

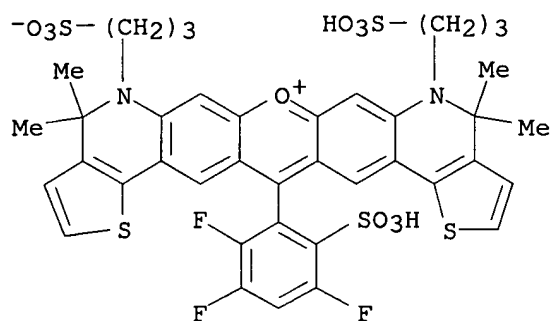
CN Thieno[3,2-c]quinoline-5(4H)-propanesulfonic acid, 7-methoxy-4,4-dimethyl-  
 (9CI) (CA INDEX NAME)



RN 397882-90-5 HCAPLUS

CN Dithieno[3,2-c:3',2'-c']pyrano[3,2-g:5,6-g']diquinolin-7-ium,

4,5,9,10-tetrahydro-4,4,10,10-tetramethyl-5,9-bis(3-sulfopropyl)-15-(2,3,5-trifluoro-6-sulfonylphenyl)-, inner salt (9CI) (CA INDEX NAME)



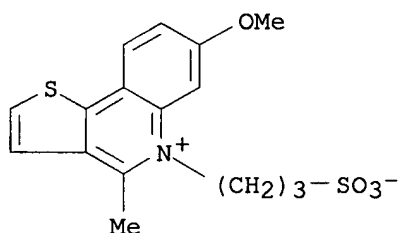
IT 397882-72-3P 397882-74-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(novel hydroxyquinoline deriv. fluorescent dyes and biol. applications)

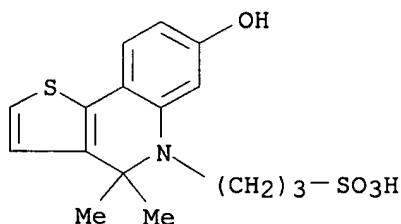
RN 397882-72-3 HCAPLUS

CN Thieno[3,2-c]quinolinium, 7-methoxy-4-methyl-5-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



RN 397882-74-5 HCAPLUS

CN Thieno[3,2-c]quinoline-5(4H)-propanesulfonic acid, 7-hydroxy-4,4-dimethyl- (9CI) (CA INDEX NAME)



L48 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:265509 HCAPLUS

DN 134:282130

TI **Reactive dye** compounds and their use

IN Lewis, David Malcolm; He, Dong Wei; Yousaf, Taher Iqbal; Genain, Gilles  
Yves Marie Fernand

*applicants*

PA The Procter &amp; Gamble Company, USA

SO PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C09B062-022

ICS D06P003-00; D06P001-38; C09B062-503; C09B062-443

CC 41-4 (Dyes, Organic Pigments, Fluorescent Brighteners, and  
Photographic Sensitizers)

Section cross-reference(s): 40, 45, 62

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001025336	A1	20010412	WO 2000-US26911	20000929
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	EP 1218451	A1	20020703	EP 2000-965537	20000929
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL			
	JP 2003511509	T2	20030325	JP 2001-528495	20000929
PRAI	GB 1999-23332	A	19991001		
	WO 2000-US26911	W	20000929		
OS	MARPAT 134:282130				
AB	A <b>reactive dye</b> compd. comprises: (a) at least one <b>chromophore</b> moiety; (b) at least one SO <sub>2</sub> C <sub>2</sub> H <sub>4</sub> group which is attached to the <b>chromophore</b> moiety either directly via the sulfur atom of the SO <sub>2</sub> C <sub>2</sub> H <sub>4</sub> group or via a linking group; characterized in that at least one SO <sub>2</sub> C <sub>2</sub> H <sub>4</sub> group is substituted on its terminal carbon atom with at least one Y group wherein Y is a <b>phosphonate</b> or <b>borate</b> deriv. The compds. herein have high exhaustion, fixation, and efficiency values and show significant improvements in terms of reducing spent dyes in the effluent, increasing dye affinity to the substrate, increasing the dye-substrate covalent bonding, increasing the ability to dye substrates at room temp., decreasing the amt. of dye removed during the post dyeing soaping off process, and reducing the staining of adjacent white fabrics. In addn., the dye compds. provide more intense dyeings and require lower levels of salt for dyeing cotton substrates. An example was given in which the reaction product of Remazol Brilliant Blue R Special and <b>acetodiphosphonic</b> acid was prepd. and used to dye cotton deep blue.				
ST	<b>acetodiphosphonic</b> acid treated <b>reactive dye</b> prodn				
IT	Hair preparations (dyes; prodn. of <b>acetodiphosphonic</b> acid-treated vinyl sulfone dyes)				
IT	Buffers (in <b>reactive dyeing</b> with <b>acetodiphosphonic</b> acid-treated dyes)				
IT	Textiles (polyamide-wool; <b>reactive dyeing</b> with				



**acetodiphosphonic acid-treated dyes)**

IT Cotton fibers  
Hair  
Leather  
Silk  
Wool  
(**reactive dyeing** with **acetodiphosphonic acid-treated dyes**)

IT Polyamide fibers, processes  
RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(**reactive dyeing** with **acetodiphosphonic acid-treated dyes**)

IT **Reactive dyes**  
(vinyl sulfone; prodn. of **reactive dyes** with improved application and use properties)

IT **Reactive dyeing**  
(with prepd. **acetodiphosphonic acid-treated vinyl sulfone dyes**)

IT **2580-78-1DP**, Remazol Brilliant Blue R Special, reaction products with **acetodiphosphonic acid 2809-21-4DP**, 1-**Hydroxyethylidenediphosphonic acid**, reaction products with Remazol Brilliant Blue R Special  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(blue dye; prodn. of **reactive dyes** with improved application and use properties)

IT 77-92-9, Citric acid, uses 110-16-7, Maleic acid, uses 110-17-8, Fumaric acid, uses 6915-15-7, Malic acid  
RL: NUU (Other use, unclassified); USES (Uses)  
(buffer in **reactive dyeing** with **acetodiphosphonic acid-treated dyes**)

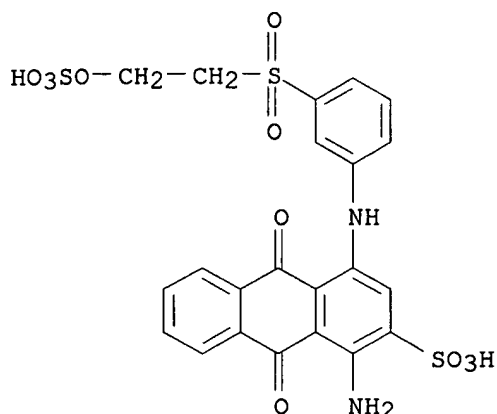
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

(1) Antwerp William Peter van; WO 9719188 A 1997 HCAPLUS  
(2) Ciba Geigy Ag; GB 1414420 A 1975 HCAPLUS  
(3) Crabtree, A; US 4139345 A 1979 HCAPLUS  
(4) Gluesenkamp, K; DE 19645601 A 1998 HCAPLUS  
(5) Plant, D; US 4092478 A 1978  
(6) Swidler, R; US 4098784 A 1978 HCAPLUS  
(7) Swidler, R; US 4150021 A 1979 HCAPLUS

IT **2580-78-1DP**, Remazol Brilliant Blue R Special, reaction products with **acetodiphosphonic acid 2809-21-4DP**, 1-**Hydroxyethylidenediphosphonic acid**, reaction products with Remazol Brilliant Blue R Special  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(blue dye; prodn. of **reactive dyes** with improved application and use properties)

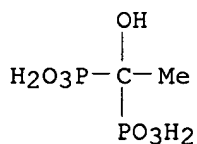
RN 2580-78-1 HCAPLUS

CN 2-Anthracenesulfonic acid, 1-amino-9,10-dihydro-9,10-dioxo-4-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-, disodium salt (9CI) (CA INDEX NAME)



O2 Na

RN 2809-21-4 HCAPLUS  
 CN Phosphonic acid, (1-hydroxyethylidene)bis- (9CI) (CA INDEX NAME)

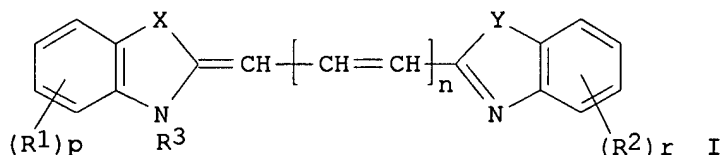


L48 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2003 ACS  
 AN 2000:881241 HCAPLUS  
 DN 134:43377  
 TI pH-sensitive cyanine **dyes** as **reactive** fluorescent reagents  
 IN Mujumdar, Ratnakar; Smith, John Anthony  
 PA Carnegie Mellon University, USA; Amersham Pharmacia Biotech UK Ltd.  
 SO PCT Int. Appl., 66 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC C09B023-00  
 CC 41-11 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
 Section cross-reference(s): 9

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000075237	A2	20001214	WO 2000-US15682	20000608
	WO 2000075237	A3	20020411		
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG,				

SI, SK, SL  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,  
 CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
 EP 1212375 A2 20020612 EP 2000-942696 20000608  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL  
 JP 2003501540 T2 20030114 JP 2001-502512 20000608  
 PRAI US 1999-138297P P 19990609  
 WO 2000-US15682 W 20000608  
 OS MARPAT 134:43377  
 GI



- AB The water-sol. cyanine dyes (I; R1, R2 = H, aminomethyl, sulfonate, phosphate, **phosphonate**, quaternary ammonium, NO2, carboxyalkyl, NCS, alkoxy-carbonylaminomethyl; R3 = H, org. group; X, Y = S, O, dialkylmethylene; = 0-3; p, r = 0-4) and their salts and protonated derivs. are fluorescent labels sensitive to acid or base and useful in intracellular environments.
- ST fluorescent pH sensitive cyanine dye bioprobe
- IT Fluorescent dyes  
 (cyanine; pH-sensitive cyanine **dyes** for **reactive** fluorescent biol. labels)
- IT Cyanine dyes  
 (fluorescent; pH-sensitive cyanine **dyes** for **reactive** fluorescent biol. labels)
- IT Acid-base indicators  
 Fluorescent indicators  
 (pH-sensitive cyanine **dyes** for **reactive** fluorescent biol. labels)
- IT 312961-70-9P  
 RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (blue dye; pH-sensitive cyanine **dyes** for **reactive** fluorescent biol. labels)
- IT 312961-66-3P 312961-68-5P  
 RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (dye; pH-sensitive cyanine **dyes** for **reactive** fluorescent biol. labels)
- IT 312961-69-6P 312961-71-0P 312961-72-1P 312961-73-2P  
 312961-74-3P 312961-76-5P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (dye; pH-sensitive cyanine **dyes** for **reactive** fluorescent biol. labels)

IT 55526-95-9P 132557-71-2P 132557-72-3P 146368-07-2P  
146368-08-3P 160313-41-7P 176978-81-7P 184351-56-2P 312961-81-2P  
312961-82-3P 312961-83-4P 312961-84-5P 312961-85-6P 312961-86-7P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
(Preparation); RACT (Reactant or reagent)  
(intermediate; pH-sensitive cyanine dyes for reactive  
fluorescent biol. labels)

IT 312961-78-7P  
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); IMF  
(Industrial manufacture); ANST (Analytical study); BIOL (Biological  
study); PREP (Preparation); USES (Uses)  
(pH-sensitive cyanine dyes for reactive fluorescent  
biol. labels)

IT 312961-80-1P  
RL: ARG (Analytical reagent use); IMF (Industrial manufacture); TEM  
(Technical or engineered material use); ANST (Analytical study); PREP  
(Preparation); USES (Uses)  
(pH-sensitive cyanine dyes for reactive fluorescent  
biol. labels)

IT 312961-79-8P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(pH-sensitive cyanine dyes for reactive fluorescent  
biol. labels)

IT 9004-54-ODP, Dextran, reaction products with cyanine dye  
, preparation  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(prepn. of fluorescent pH-sensitive cyanine dye-labeled biol. compds.)

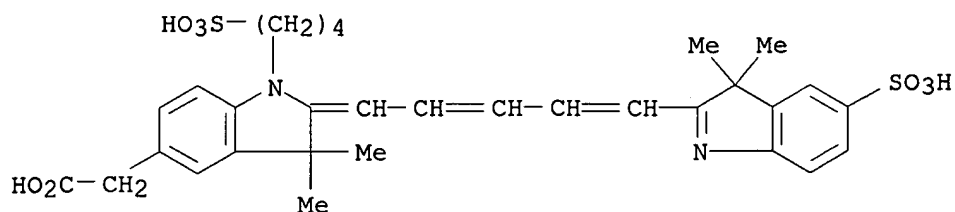
IT 312961-67-4P 312961-75-4P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(red dye; pH-sensitive cyanine dyes for reactive  
fluorescent biol. labels)

IT 75-03-6, Ethyl iodide 98-71-5, p-Hydrazinobenzenesulfonic acid  
118-33-2, 2-Naphthylamine-5,7-disulfonic acid 120-75-2,  
2-Methylbenzothiazole 122-51-0, Ethyl orthoformate 563-80-4  
622-15-1, N,N'-Diphenylformamidine 1633-83-6, 1,4-Butane sultone  
4224-70-8, 6-Bromohexanoic acid 5146-68-9, N-(Hydroxymethyl)succinimide  
5652-79-9 7803-57-8, Hydrazine hydrate 51143-32-9 74124-79-1,  
Disuccinimidyl carbonate 105047-45-8 118672-05-2 146368-11-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; pH-sensitive cyanine dyes for  
reactive fluorescent biol. labels)

IT 312961-69-6P 312961-71-0P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered  
material use); PREP (Preparation); USES (Uses)  
(dye; pH-sensitive cyanine dyes for reactive  
fluorescent biol. labels)

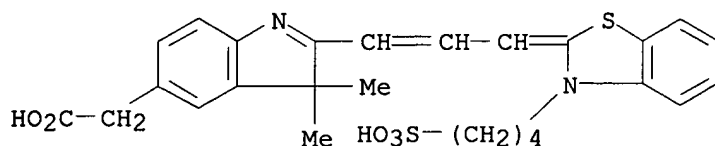
RN 312961-69-6 HCAPLUS

CN 1H-Indole-5-acetic acid, 2-[5-(3,3-dimethyl-5-sulfo-3H-indol-2-yl)-2,4-  
pentadienylidene]-2,3-dihydro-3,3-dimethyl-1-(4-sulfoethyl)- (9CI) (CA  
INDEX NAME)



RN 312961-71-0 HCAPLUS

CN 3H-Indole-5-acetic acid, 3,3-dimethyl-2-[3-[3-(4-sulfoethyl)-2(3H)-benzothiazolylidene]-1-propenyl]- (9CI) (CA INDEX NAME)



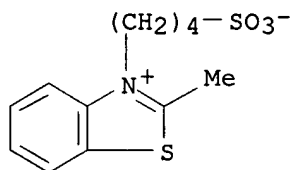
IT 55526-95-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; pH-sensitive cyanine dyes for reactive fluorescent biol. labels)

RN 55526-95-9 HCAPLUS

CN Benzothiazolium, 2-methyl-3-(4-sulfoethyl)-, inner salt (9CI) (CA INDEX NAME)



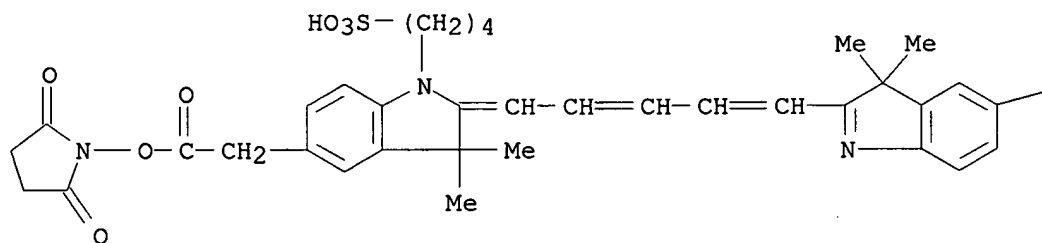
IT 312961-79-8P

RL: IMF (Industrial manufacture); PREP (Preparation) (pH-sensitive cyanine dyes for reactive fluorescent biol. labels)

RN 312961-79-8 HCAPLUS

CN 1H-Indole-1-butan-1-yl sulfonic acid, 2-[5-(3,3-dimethyl-5-sulfo-3H-indol-2-yl)-2,4-pentadienylidene]-5-[2-[(2,5-dioxo-1-pyrrolidinyl)oxy]-2-oxoethyl]-2,3-dihydro-3,3-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—SO<sub>3</sub>H

L48 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1999:617950 HCAPLUS  
 DN 131:258916  
 TI Method for production of coloring substances and new compounds  
 IN Kobayashi, Suguru; Kato, Takashi  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 33 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C09B023-00  
 ICS G03C001-14  
 CC 41-6 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and  
 Photographic Sensitizers)  
 Section cross-reference(s): 74  
 FAN.CNT 1  

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11263918	A2	19990928	JP 1998-65897	19980316
PRAI	JP 1998-65897		19980316		
OS	MARPAT 131:258916				
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The substances useful as photog. sensitizing dyes, are obtained by linking a dehydrocondensable group-contg. colorant with a counter colorant compd. in the presence of P compd. such as R<sub>1</sub>R<sub>2</sub>PO(OR<sub>3</sub>) (R<sub>1</sub> = aryl; R<sub>2</sub> = aryl or living aryloxy group; R<sub>3</sub> = aryloxy living group together with the bonding O) in a solvent. Thus, adding a soln. of 11 mg KOH in 1 mL water to 100 mg compd. I, adding 20 mL DMSO, mixing with 53 mg tetrabutylammonium bromide for 1 h, combining with a soln. of 115 mg compd. II and C<sub>6</sub>H<sub>5</sub>P(O)(C<sub>6</sub>H<sub>4</sub>NO<sub>2</sub>-4)<sub>2</sub> in 10 mL DMSO and 100 mg mol. sieve 4A, mixing at

room temp. for 20 h and working up gave compd. III.

ST methine dye coupling photog sensitizer; amidation methine dye photog sensitizer; aryl **phosphonate** catalyst dehydrocondensation bismethine sensitizer; cyanine dye dehydrocondensation photog sensitizer

IT Condensation reaction catalysts  
(dehydro-; dehydrocondensation reaction in manuf. of bimol. linked dyes for photog. sensitizers)

IT Cyanine **dyes**  
Photographic sensitizers  
(dehydrocondensation **reaction** in manuf. of bimol. linked dyes for photog. sensitizers)

IT 38873-91-5, Bis(p-nitrophenyl) **phenylphosphonate**  
RL: CAT (Catalyst use); USES (Uses)  
(dehydrocondensation catalyst; dehydrocondensation reaction in manuf. of bimol. linked dyes for photog. sensitizers)

IT 226919-23-9P 244793-36-0P  
RL: **IMF (Industrial manufacture)**; MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)  
(photog. sensitizers; dehydrocondensation reaction in manuf. of bimol. linked dyes for photog. sensitizers)

IT 244793-33-7 244793-34-8 244793-35-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactants; dehydrocondensation reaction in manuf. of bimol. linked dyes for photog. sensitizers)

IT 226919-23-9P 244793-36-0P  
RL: **IMF (Industrial manufacture)**; MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)  
(photog. sensitizers; dehydrocondensation reaction in manuf. of bimol. linked dyes for photog. sensitizers)

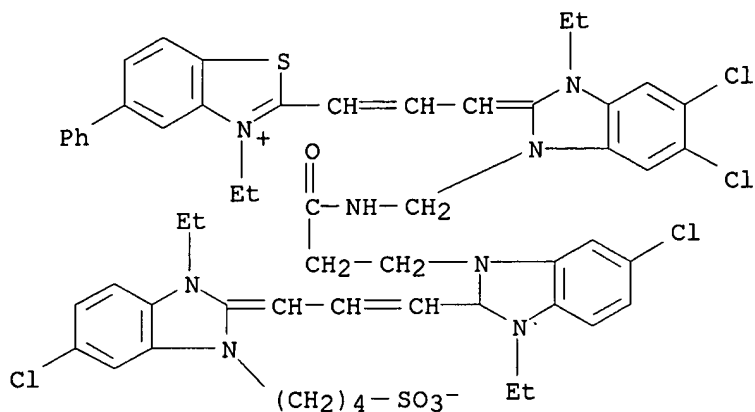
RN 226919-23-9 HCAPLUS

CN Benzothiazolium, 2-[3-[5,6-dichloro-1-[2-[[3-[6-chloro-2-[3-[5-chloro-1-ethyl-1,3-dihydro-3-(4-sulfobutyl)-2H-benzimidazol-2-ylidene]-1-propenyl]-3-ethyl-1H-benzimidazolium-1-yl]-1-oxopropyl]amino]ethyl]-3-ethyl-1,3-dihydro-2H-benzimidazol-2-ylidene]-1-propenyl]-3-ethyl-5-phenyl-, inner salt, bromide (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 244793-36-0 HCAPLUS

CN Benzothiazolium, 2-[3-[5,6-dichloro-1-[[[3-[6-chloro-2-[3-[5-chloro-1-ethyl-1,3-dihydro-3-(4-sulfobutyl)-2H-benzimidazol-2-ylidene]-1-propenyl]-3-ethyl-1H-benzimidazolium-1-yl]-1-oxopropyl]amino]methyl]-3-ethyl-1,3-dihydro-2H-benzimidazol-2-ylidene]-1-propenyl]-3-ethyl-5-phenyl-, bromide (9CI) (CA INDEX NAME)



○ Br<sup>-</sup>

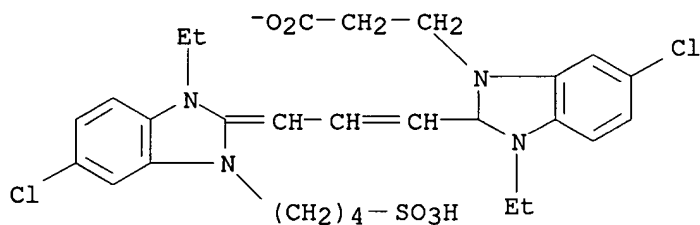
\*\*\* FRAGMENT DIAGRAM IS INCOMPLETE \*\*\*

IT 244793-33-7 244793-35-9

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactants; dehydrocondensation reaction in manuf. of bimol. linked  
dyes for photog. sensitizers)

RN 244793-33-7 HCAPLUS

CN 1H-Benzimidazolium, 3-(2-carboxyethyl)-5-chloro-2-[3-[5-chloro-1-ethyl-1,3-  
dihydro-3-(4-sulfobutyl)-2H-benzimidazol-2-ylidene]-1-propenyl]-1-ethyl-,  
inner salt (9CI) (CA INDEX NAME)

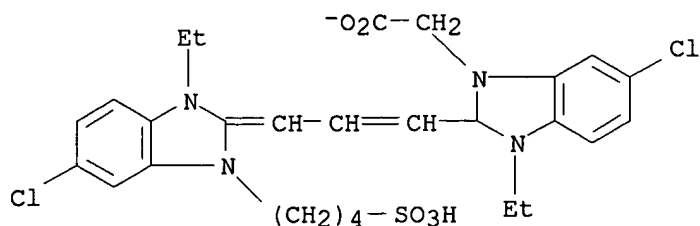


\*\*\* FRAGMENT DIAGRAM IS INCOMPLETE \*\*\*

RN 244793-35-9 HCAPLUS

CN 1H-Benzimidazolium, 3-(carboxymethyl)-5-chloro-2-[3-[5-chloro-1-ethyl-1,3-  
dihydro-3-(4-sulfobutyl)-2H-benzimidazol-2-ylidene]-1-propenyl]-1-ethyl-,  
inner salt (9CI) (CA INDEX NAME)





\*\*\* FRAGMENT DIAGRAM IS INCOMPLETE \*\*\*

L48 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1997:549238 HCAPLUS

DN 127:163069

TI Mixed **reactive dye** compositions with excellent storability and dyeing and printing using the same

IN Yamate, Shinichi; Tokieda, Takemi; Yabushita, Shinichi; Nishimura, Shinji

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

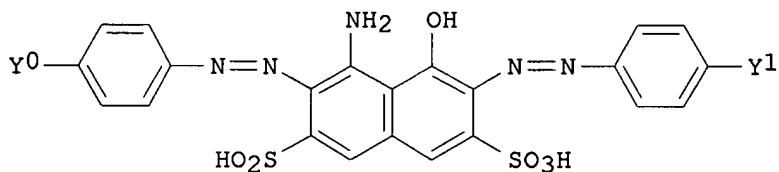
IC ICM C09B067-22

ICS D06P001-384; D06P003-60

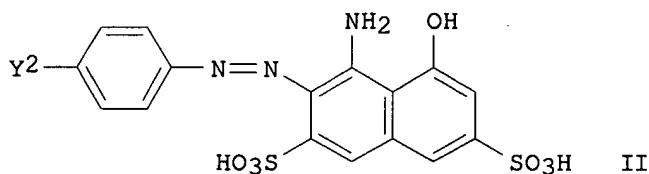
CC 40-6 (**Textiles** and Fibers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09169922	A2	19970630	JP 1995-330333	19951219
PRAI	JP 1995-330333		19951219		
OS	MARPAT 127:163069				
GI					



I



II

AB The title compns. contain **reactive dyes** of free-acid form I and .ltoreq.1% II (Y0, Y1, Y2 = vinylsulfonyl, SO2CH2CH2Z; Z = alkali-removable group).

ST **reactive azo dye** mixt storability

IT Buffers

**Dyeing**

**Reactive azo dyes**

## Textile printing

(mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

## IT Reduction

(preventers; mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

IT **84100-03-8P**

RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)

(mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

IT **17095-24-8P**

RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

IT 62-76-0, Sodium oxalate 127-08-2, Potassium acetate 127-09-3, Sodium acetate 141-95-7, Sodium malonate 877-24-7, Potassium hydrogen phthalate 994-36-5, Sodium citrate 7558-79-4, Disodium phosphate 7558-80-7, Monosodium phosphate 7758-11-4, Dipotassium phosphate 7778-77-0, Monopotassium phosphate 10043-22-8, Potassium oxalate 12712-38-8, **Potassium borate** 13840-56-7, **Sodium borate** 14047-56-4, ~~14475-11-7, Sodium tartrate, uses 135597-64-7~~

RL: MOA (Modifier or additive use); USES (Uses)

(mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

IT **2494-89-5** 5460-09-3, H Acid monosodium salt

RL: RCT (Reactant); RACT (Reactant or reagent)

(mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

IT **68189-39-9 80157-00-2 129009-88-7**

**152066-94-9 161034-62-4**

RL: TEM (Technical or engineered material use); USES (Uses)

(mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

IT 127-68-4, Sodium 3-nitrobenzenesulfonate 7601-89-0, Sodium perchlorate 7632-00-0, Sodium nitrite 7775-09-9, Sodium chlorate 11105-06-9, Sodium vanadate 15630-89-4, Sodium percarbonate 193564-57-7

RL: MOA (Modifier or additive use); USES (Uses)

(redn. preventer; mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

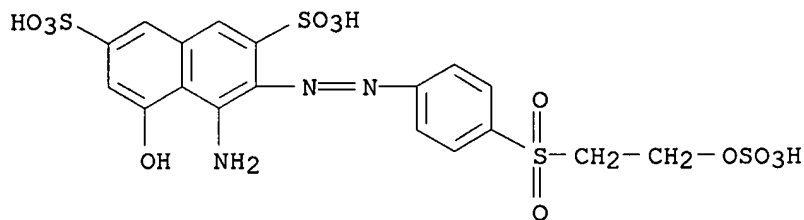
IT **84100-03-8P**

RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)

(mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

RN 84100-03-8 HCAPLUS

CN 2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-, trisodium salt (9CI) (CA INDEX NAME)



O3 Na

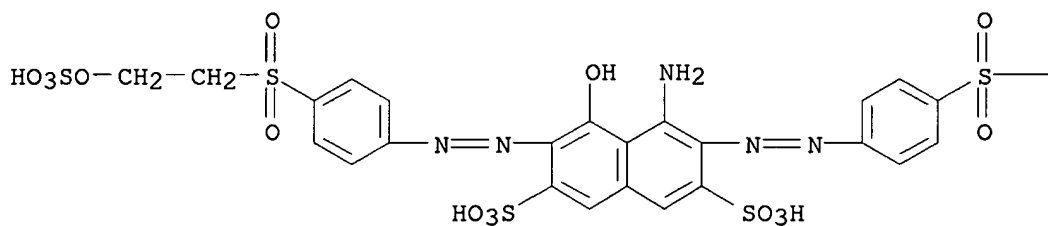
IT 17095-24-8P

RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
 (mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

RN 17095-24-8 HCAPLUS

CN 2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3,6-bis[[4-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



O4 Na

PAGE 1-B

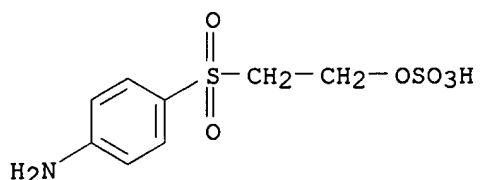
—CH<sub>2</sub>—CH<sub>2</sub>—OSO<sub>3</sub>H

IT 2494-89-5

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (mixed **reactive dye** compns. with excellent storability and dyeing and printing using the same)

RN 2494-89-5 HCAPLUS

CN Ethanol, 2-[(4-aminophenyl)sulfonyl]-, hydrogen sulfate (ester) (9CI) (CA INDEX NAME)



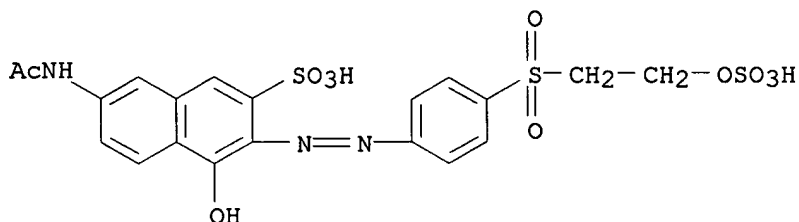
IT 68189-39-9 80157-00-2 129009-88-7

152066-94-9 161034-62-4

RL: TEM (Technical or engineered material use); USES (Uses)  
(mixed **reactive dye** compns. with excellent  
storability and dyeing and printing using the same)

RN 68189-39-9 HCAPLUS

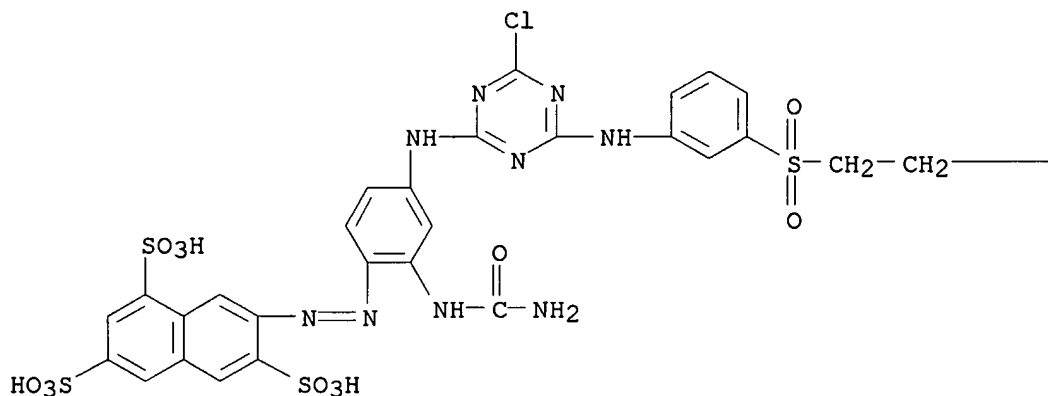
CN 2-Naphthalenesulfonic acid, 7-(acetamino)-4-hydroxy-3-[[4-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]azo]- (9CI) (CA INDEX NAME)



RN 80157-00-2 HCAPLUS

CN 1,3,6-Naphthalenetrisulfonic acid, 7-[[2-[(aminocarbonyl)amino]-4-[[4-chloro-6-[[3-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]phenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

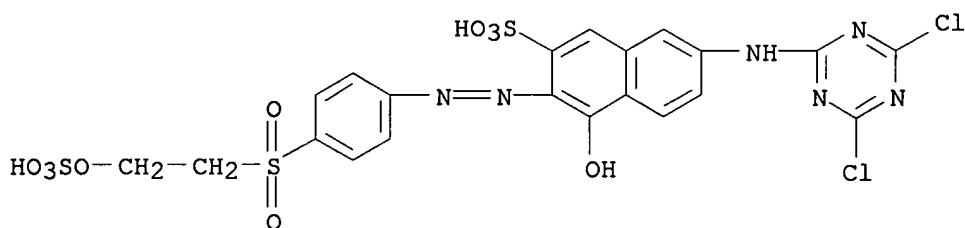
PAGE 1-A



○4 Na

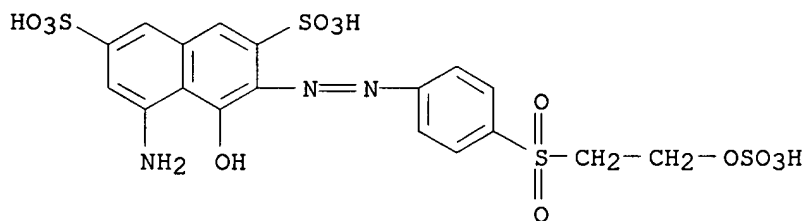
—OSO<sub>3</sub>H

RN 129009-88-7 HCAPLUS  
 CN 2-Naphthalenesulfonic acid, 7-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]-4-hydroxy-3-[[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-, disodium salt (9CI) (CA INDEX NAME)



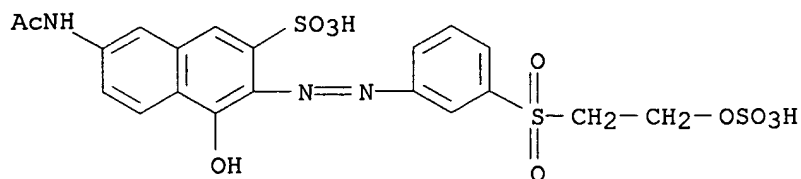
O2 Na

RN 152066-94-9 HCAPLUS  
 CN 2,7-Naphthalenedisulfonic acid, 5-amino-4-hydroxy-3-[[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-, trisodium salt (9CI) (CA INDEX NAME)



O3 Na

RN 161034-62-4 HCAPLUS  
 CN 2-Naphthalenesulfonic acid, 7-(acetylamino)-4-hydroxy-3-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]- (9CI) (CA INDEX NAME)



L48 ANSWER 13 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1997:342756 HCAPLUS

DN 127:65931

TI Preparation of labeled boronic acid derivatives with improved stability and water solubility for blood assays

IN Sundrehagen, Erling; Frantzen, Frank

PA Axis Biochemicals Asa, Norway

SO U.S., 10 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C07F005-02

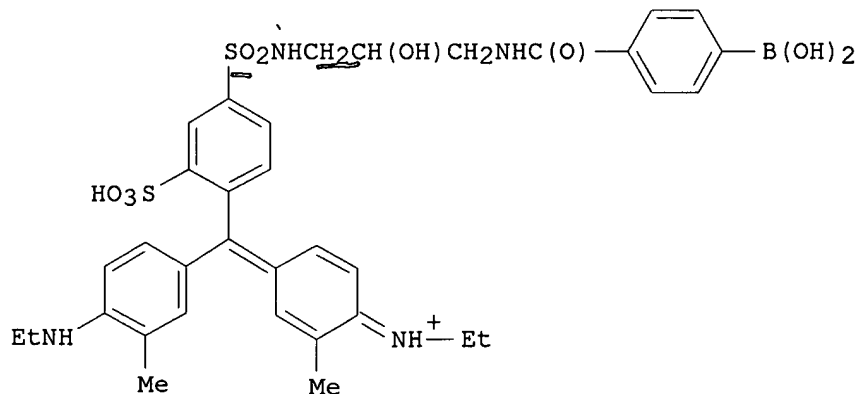
NCL 540128000

CC 29-4 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 9, 41

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5631364	A	19970520	US 1994-220525	19940331
	US 5702952	A	19971230	US 1997-804328	19970221
PRAI	US 1994-220525		19940331		
OS	MARPAT 127:65931				
GI					



I

AB The invention provides novel labeled boronic acid conjugates (VW2W1)R1C6H3B(OH)2 (V = reporter moiety such as a **chromophore** or fluorophore, e.g. cyanine dye; W2 = bond or org. linker moiety; W1 is a \*SO2NR2, \*CONR2 or \*CH2N+R22 bound at the \*-marked atom to the Ph ring; R1 = H or an electron withdrawing substituent group; and each R2 = H or an optionally hydroxylated and optionally C1-6-alkoxylated C1-6-alkyl) and

salts thereof, e.g. for use in assays for cis-diols such as glycosylated blood proteins, having enhanced water-solubility and storage stability. For example, I was prepared by adding xylene-cyanole-SO<sub>2</sub>Cl to a MeOH soln. of 4-H<sub>2</sub>NCH<sub>2</sub>CH(OH)CH<sub>2</sub>NHC(O)C<sub>6</sub>H<sub>4</sub>B(OH)<sub>2</sub>, II, contg. DMF and NaHCO<sub>3</sub> buffer (pH 8.6); II was prepared from 4-(benzotriazolylloxycarbonyl)phenylboronic acid, III, and 1,3-diamino-2-propanol in pyridine; III was prepared by adding 1-hydroxybenzotriazole and N,N'-dicyclohexylcarbodiimide in DMF to 4-carboxyphenylboronic acid, IV, in DMF; IV was prepared by oxidizing 4-methylphenylboronic acid with KMnO<sub>4</sub> in alk. soln. I has an absorption max. at 616 nm with an extinction coeff. = 70,000 L mol<sup>-1</sup> cm<sup>-1</sup> and is significantly more stable than boronic acids previously used for blood assay.

ST dye boronic acid conjugate prepn stability; blood assay phenylboronic acid reagent prepn; cyanine dye boronic acid conjugate prepn; glycosylated blood protein detn boronic reagent

IT Proteins, general, analysis

RL: ANT (Analyte); ANST (Analytical study)

(blood, glycosylated; prepn. of labeled boronic acid derivs. with improved stability and water solubility for blood assays)

IT Blood analysis

#### Chromophores

Cyanine dyes

Fluorescent probes

(prepn. of labeled boronic acid derivs. with improved stability and water solubility for blood assays)

IT 14047-29-1P, 4-Carboxyphenylboronic acid 75922-27-9P 159276-65-0P  
191231-80-8P 191231-85-3P 191231-88-6P 191231-91-1P 191231-93-3P  
191231-94-4P 191231-95-5P 191231-96-6P 191232-11-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; prepn. of labeled boronic acid derivs. with improved stability and water solubility for blood assays)

IT 191231-97-7P 191231-98-8P **191231-99-9P 191232-00-5P**  
191232-02-7P 191232-03-8P 191232-04-9P 191232-05-0P 191232-06-1P  
191232-07-2P 191232-08-3P

RL: ARG (Analytical reagent use); **SPN (Synthetic preparation)**;

ANST (Analytical study); **PREP (Preparation)**; USES (Uses)

(prepn. of labeled **boronic** acid derivs. with improved stability and water solubility for blood assays)

IT 107-15-3, 1,2-Ethanediamine, reactions 109-76-2, 1,3-Propanediamine  
111-40-0 124-09-4, 1,6-Hexanediamine, reactions 616-29-5,  
1,3-Diamino-2-propanol 2592-95-2, 1-Hydroxybenzotriazole 2752-17-2,  
Bis(2-aminoethyl) ether 3599-32-4, Indocyanine green 5720-05-8,  
4-Methylphenylboronic acid 6066-82-6, N-Hydroxysuccinimide 13650-49-2  
62669-62-9, IR 132 100180-30-1 144377-05-9, Cy5 191232-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of labeled boronic acid derivs. with improved stability and water solubility for blood assays)

IT **191231-99-9P 191232-00-5P**

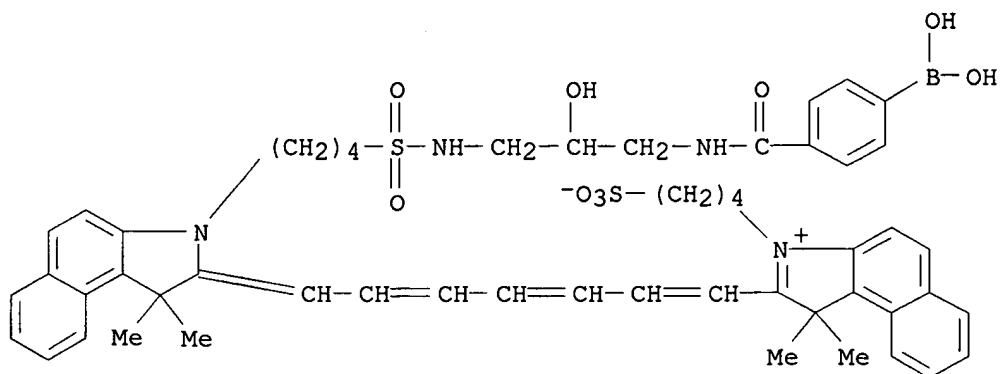
RL: ARG (Analytical reagent use); **SPN (Synthetic preparation)**;

ANST (Analytical study); **PREP (Preparation)**; USES (Uses)

(prepn. of labeled **boronic** acid derivs. with improved stability and water solubility for blood assays)

RN 191231-99-9 HCAPLUS

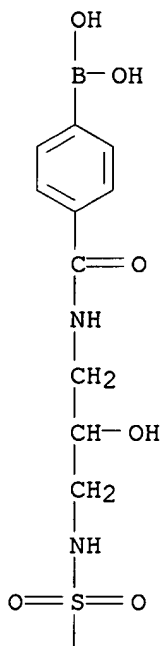
CN 1H-Benz[e]indolium, 2-[7-[3-[4-[[[3-[(4-boronobenzoyl)amino]-2-hydroxypropyl]amino]sulfonyl]butyl]-1,3-dihydro-1,1-dimethyl-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



RN 191232-00-5 HCAPLUS

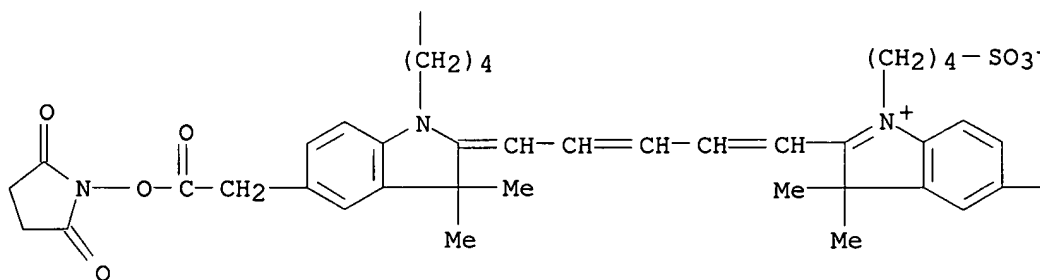
CN 3H-Indolium, 2-[5-[1-[4-[[3-[(4-boronobenzoyl)amino]-2-hydroxypropyl]amino]sulfonyl]butyl]-5-[2-[(2,5-dioxo-1-pyrrolidinyl)oxy]-2-oxoethyl]-1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene]-1,3-pentadienyl]-5-[2-[(2,5-dioxo-1-pyrrolidinyl)oxy]-2-oxoethyl]-3,3-dimethyl-1-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)

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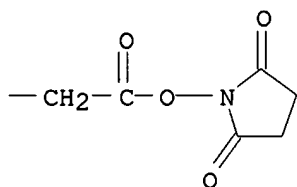




PAGE 2-A



PAGE 2-B



L48 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1995:826852 HCAPLUS

DN 123:241083

TI Newly Synthesized Dyes and Their Polymer/Glass Composites for One- and Two-Photon Pumped Solid-State Cavity Lasing

AU Zhao, Chan F.; He, Guang S.; Bhawalkar, Jayant D.; Park, Chi K.; Prasad, Paras N.

CS Department of Chemistry, State University of New York, Buffalo, NY, 14260-3000, USA

SO Chemistry of Materials (1995), 7(10), 1979-83

CODEN: CMATEX; ISSN: 0897-4756

PB American Chemical Society

DT Journal

LA English

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 41

AB A newly synthesized laser dye, trans-4-[p-(N-Et-N-(hydroxyethyl)amino)styryl]-N-methylpyridinium **tetraphenylborate** (ASPT or dye I) has high thermal stability and photostability. To modify the soly. of dye I, dyes were synthesized. Using dye I doped polymer film with a refractive index less than that of the glass substrate, a leaky waveguide device was studied. Under pump conditions of 532 nm wavelength, 10 ns pulse width, and 5 Hz repetition rate, 1-photon cavity lasing was obtained at 590 nm, with a lasing efficiency of 12%, and lasing lifetime >3 .times. 104 pulses. Using dye I doped bulk polymer rods, 2-photon pumped frequency up-converted cavity lasing also was accomplished using a Q-switched Nd:YAG laser as the pump source. The new dyes possess a much

greater 2-photon-absorption cross section and much stronger up-converted fluorescence emission than that exhibited by common org. dyes (such as rhodamine). The cavity lasting wavelength and pulse duration were 600 nm and 3-6 ns obtained with a pump wavelength of 1.06  $\mu\text{m}$  and pump pulses of 10 ns. Lasing lifetime, in terms of pulse nos., was  $>4$  .times. 104 pulses at 2 Hz repetition rate. By impregnating these dyes into a sol-gel glass:poly(Me methacrylate) (PMMA) and Vycor glass:PMMA composite glasses, 2-photon cavity lasing properties also were studied.

ST laser dye PMMA glass composite; fluorescence dye laser PMMA glass composite

IT Lasers

(newly synthesized dyes and polymer/glass composites for one- and two-photon pumped solid-state cavity lasing)

IT Fluorescence

(upconversion; newly synthesized dyes and polymer/glass composites for one- and two-photon pumped solid-state cavity lasing)

IT Waveguides

(optical, newly synthesized dyes and polymer/glass composites for one- and two-photon pumped solid-state cavity lasing)

IT Optical absorption

(two-photon, newly synthesized dyes and polymer/glass composites for one- and two-photon pumped solid-state cavity lasing)

IT 159721-38-7

RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)

(newly synthesized dyes and polymer/glass composites for one- and two-photon pumped solid-state cavity lasing)

IT 9011-14-7, PMMA

RL: DEV (Device component use); PRP (Properties); USES (Uses)

(newly synthesized dyes and polymer/glass composites for one- and two-photon pumped solid-state cavity lasing)

IT 2301-80-6P, 4-Methyl-N-methylpyridinium iodide 63619-28-3P,

4-(N-Ethyl-N-(hydroxyethyl)amino)benzaldehyde **90133-79-2P**

150846-83-6P 168645-55-4P 168645-56-5P **168645-57-6P**

RL: PNU (Preparation, unclassified); PRP (Properties); RCT (Reactant);

**PREP (Preparation); RACT (Reactant or reagent)**

(newly synthesized dyes and polymer/glass composites for one- and two-photon pumped solid-state cavity lasing)

IT 74-88-4, Monoiodomethane, **reactions** 78-67-1 100-10-7,

4-(N,N-Dimethylamino)benzaldehyde 108-89-4, p-Picoline 110-73-6

143-66-8, Sodium **tetraphenylborate** 459-57-4,

p-Fluorobenzaldehyde 624-76-0, 2-Iodoethanol 1633-83-6 68971-03-9

168645-54-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(newly synthesized **dyes** and polymer/glass composites for one- and two-photon pumped solid-state cavity lasing)

IT **90133-79-2P 168645-57-6P**

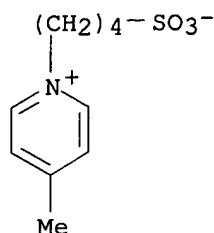
RL: PNU (Preparation, unclassified); PRP (Properties); RCT (Reactant);

**PREP (Preparation); RACT (Reactant or reagent)**

(newly synthesized dyes and polymer/glass composites for one- and two-photon pumped solid-state cavity lasing)

RN 90133-79-2 HCAPLUS

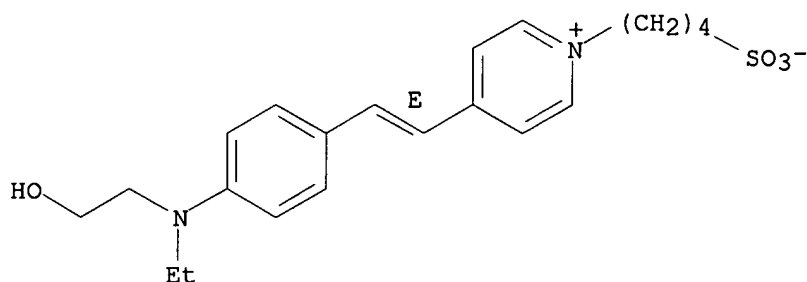
CN Pyridinium, 4-methyl-1-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



RN 168645-57-6 HCAPLUS

CN Pyridinium, 4-[2-[4-[ethyl(2-hydroxyethyl)amino]phenyl]ethenyl]-1-(4-sulfobutyl)-, inner salt, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L48 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1995:494622 HCAPLUS

DN 122:239194

TI Oxidative preparation of 2-cyanoethyl-2'-hydroxyethylsulfone and its hydrogenation to 3-aminopropyl-2'-hydroxyethylsulfone

IN Kunde, Klaus

PA Bayer A.-G., Germany

SO Eur. Pat. Appl., 4 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM C07C317-44

ICS C07C315-00; C07C323-52

CC 23-19 (Aliphatic Compounds)

Section cross-reference(s): 41, 45

FAN.CNT 1

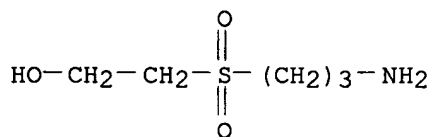
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	EP 639562	A1	19950222	EP 1994-112194	19940804
	EP 639562	B1	19970129		
	R: CH, DE, FR, GB, LI				
	DE 4327568	A1	19950223	DE 1993-4327568	19930817
	JP 07089930	A2	19950404	JP 1994-209336	19940811
	CN 1105985	A	19950802	CN 1994-108175	19940817
	CN 1037839	B	19980325		
PRAI	DE 1993-4327568		19930817		

OS CASREACT 122:239194

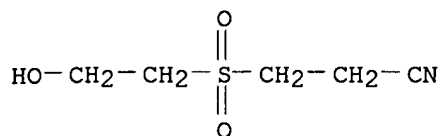
AB The title compd., 2-cyanoethyl-2'-hydroxyethylsulfone, is prepd. in high

yield by the oxidn. (e.g., H<sub>2</sub>O<sub>2</sub>) of the corresponding thioether (prepd. by the addn. reaction of HSCH<sub>2</sub>CH<sub>2</sub>OH with H<sub>2</sub>C:CHCN). This is followed by hydrogenation of the nitrile to the amine [an intermediate in the prepn. of **reactive dyes** (no data)] using a **boronate** (e.g., NaBH<sub>4</sub>).

- ST cyanoethylhydroxyethylsulfone oxidn prepn; aminopropylhydroxyethylsulfone prepn **reactive dye** intermediate
- IT Oxidation  
(in prepn. of 2-cyanoethyl-2'-hydroxyethylsulfone)
- IT Hydrogenation  
(in prepn. of 3-aminopropyl-2'-hydroxyethylsulfone from 2-cyanoethyl-2'-hydroxyethylsulfone)
- IT **Dyes, reactive**  
(prepn. of 3-aminopropyl-2'-hydroxyethylsulfone as an intermediate for)
- IT **162326-70-7P**  
RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(oxidative prepn. of 2-cyanoethyl-2'-hydroxyethylsulfone and its hydrogenation to)
- IT 60-24-2, 2-Mercaptoethanol 107-13-1, 2-Propenenitrile, reactions  
RL: **RCT (Reactant); RACT (Reactant or reagent)**  
(oxidative prepn. of 2-cyanoethyl-2'-hydroxyethylsulfone and its hydrogenation to 3-aminopropyl-2'-hydroxyethylsulfone)
- IT 15771-37-6P  
RL: **RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**  
(oxidative prepn. of 2-cyanoethyl-2'-hydroxyethylsulfone and its hydrogenation to 3-aminopropyl-2'-hydroxyethylsulfone)
- IT 16940-66-2, Sodium borohydride  
RL: **RCT (Reactant); RACT (Reactant or reagent)**  
(oxidative prepn. of 2-cyanoethyl-2'-hydroxyethylsulfone and its hydrogenation to 3-aminopropyl-2'-hydroxyethylsulfone using)
- IT **163021-57-6P**  
RL: **RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**  
(oxidative prepn. of 2-cyanoethyl-2'-hydroxyethylsulfone and its hydrogenation to 3-aminopropyl-2'-hydroxyethylsulfone using)
- IT **162326-70-7P**  
RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(oxidative prepn. of 2-cyanoethyl-2'-hydroxyethylsulfone and its hydrogenation to)
- RN 162326-70-7 HCAPLUS
- CN Ethanol, 2-[(3-aminopropyl)sulfonyl]- (9CI) (CA INDEX NAME)



- IT **163021-57-6P**  
RL: **RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**  
(oxidative prepn. of 2-cyanoethyl-2'-hydroxyethylsulfone and its hydrogenation to 3-aminopropyl-2'-hydroxyethylsulfone using)
- RN 163021-57-6 HCAPLUS
- CN Propanenitrile, 3-[(2-hydroxyethyl)sulfonyl]- (9CI) (CA INDEX NAME)



L48 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1993:61528 HCAPLUS

DN 118:61528

TI Labeling agents comprising **boronic** acid conjugates, their preparation and use in blood analysis

IN Frantzen, Frank; Sundrehagen, Erling

PA Cockbain, Julian Roderick Michaelson, UK; Axis Research As

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07F005-02

ICS G01N033-52; G01N033-72

CC 41-8 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 9

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9208722	A1	19920529	WO 1991-EP2160	19911113
	W: AT, AU, BB, BG, BR, CA, CH, CS, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MC, MG, MN, MW, NL, NO, PL, RO, SD, SE, SU, US				
	RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GN, GR, IT, LU, ML, MR, NL, SE, SN, TD, TG				
	CA 2096251	AA	19920515	CA 1991-2096251	19911113
	AU 9189092	A1	19920611	AU 1991-89092	19911113
	AU 666294	B2	19960208		
	EP 557357	A1	19930901	EP 1991-920019	19911113
	EP 557357	B1	19950322		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	HU 64353	A2	19931228	HU 1993-1408	19911113
	HU 216635	B	19990728		
	JP 06502170	T2	19940310	JP 1991-518099	19911113
	JP 2761494	B2	19980604		
	AT 120195	E	19950415	AT 1991-920019	19911113
	ES 2069914	T3	19950516	ES 1991-920019	19911113
	RU 2076127	C1	19970327	RU 1993-43620	19911113
	PL 176747	B1	19990730	PL 1991-299064	19911113
	NO 9301746	A	19930713	NO 1993-1746	19930513
	US 5739318	A	19980414	US 1993-50275	19930712
PRAI	GB 1990-24775		19901114		
	WO 1991-EP2160		19911113		
OS	MARPAT 118:61528				
AB	Nonproteinaceous <b>boronic</b> acid conjugates, useful in estn. of cis-diols in blood, comprise <b>chromophores</b> linked via an org. group to B(OH) <sub>2</sub> [or B(OH) <sub>3</sub> ]. Thus, xylene cyanole was converted to the sulfonyl chloride with POCl <sub>3</sub> and condensed with 3-H <sub>2</sub> NC <sub>6</sub> H <sub>4</sub> B(OH) <sub>2</sub> to give a				

conjugate, .lambda.max 619 nm (.epsilon. >70,000).

ST blood analysis **boronic** acid conjugate; triphenylmethane dye  
**boronic** acid conjugate; xylene cyanole **boronic** acid  
conjugate

IT Dyes  
(**boronic** acid conjugates, manuf. of, as labels for detn. of  
diols in blood)

IT Blood analysis  
(detn. of diols in, labels for, dye-**boronic** acid conjugates  
as)

IT Hemoglobins  
RL: ANT (Analyte); ANST (Analytical study)  
(glyco-, detn. of, in blood, labels for, dye-**boronic** acid  
conjugates as)

IT 138-89-6, N,N-Dimethyl-4-nitrosoaniline  
RL: USES (Uses)  
(condensation of, with [(carbethoxyethyl)methylamino]phenol)

IT 591-27-5, m-Aminophenol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(formylation of)

IT 2650-17-1DP, reaction products with **aminophenylboronic** acid  
**3599-32-4DP**, IR 125, reaction products with (aminophenyl)  
**boronic** acid 30418-59-8DP, (m-Aminophenyl)**boronic**  
acid, **reaction** products with **dye** acid chlorides  
104469-80-9DP, reaction products with (aminophenyl)**boronic** acid  
145525-86-6P 145537-85-5DP, Cy 5.18, reaction products with  
(aminophenyl)**boronic** acid  
RL: **PREP (Preparation)**  
(manuf. of, as labeling agent for blood anal.)

IT 14703-69-6P, m-(Methylamino)phenol  
RL: IMF (Industrial manufacture); **PREP (Preparation)**  
(prepn. and alkylation with Et bromopropionate)

IT 145525-82-2P  
RL: IMF (Industrial manufacture); **PREP (Preparation)**  
(prepn. and condensation with dimethylnitrosoaniline)

IT 145525-83-3DP, zinc complex  
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT  
(Reactant or reagent)  
(prepn. and cyclization of)

IT 145525-84-4P  
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT  
(Reactant or reagent)  
(prepn. and hydrolysis of)

IT 145525-85-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT  
(Reactant or reagent)  
(prepn. and reaction with (aminophenyl)**boronic** acid)

IT 24891-35-8P, m-Formamidophenol  
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT  
(Reactant or reagent)  
(prepn. and redn. of)

IT 539-74-2, Ethyl 3-bromopropionate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with (methylamino)phenol)

IT 30418-59-8, (m-Aminophenyl)**boronic** acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**reaction** of, with phenoxazine **dye** deriv.)

IT 2650-17-1

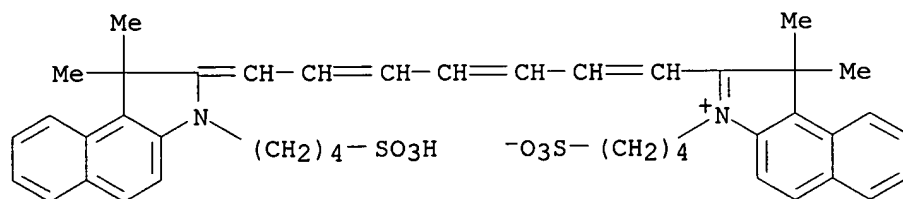
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with phosphorus oxychloride and (aminophenyl)  
**boronic acid**)

IT **3599-32-4DP**, IR 125, reaction products with (aminophenyl)  
**boronic acid**

RL: **PREP (Preparation)**  
(manuf. of, as labeling agent for blood anal.)

RN 3599-32-4 HCAPLUS

CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



○ Na

L48 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1990:218775 HCAPLUS

DN 112:218775

TI Organic dyes for Langmuir-Blodgett thin films

IN Naito, Katsuyuki; Egusa, Syun; Gemma, Nobuhiro

PA Toshiba Corp., Japan

SO Eur. Pat. Appl., 96 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C09B053-00

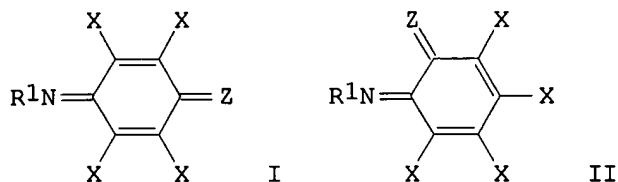
ICS C09B069-00; G02F001-35

CC 41-8 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and  
Photographic Sensitizers)

Section cross-reference(s): 32, 73, 74, 75, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 331477	A2	19890906	EP 1989-302061	19890301
	EP 331477	A3	19911002		
	EP 331477	B1	19940727		
	R: DE, FR, GB				
	JP 02001169	A2	19900105	JP 1988-319582	19881220
	JP 2778714	B2	19980723		
	US 5153680	A	19921006	US 1989-316186	19890227
PRAI	JP 1988-48891		19880302		
	JP 1988-319582		19881220		
OS	MARPAT 112:218775				
GI					



AB The title dyes I (R1 = an electron-attractive groups substituted with a C.gtoREQ.12 hydrophobic group; X = H, Me, halogen; Z = O, NR2; R2 = electron-attractive group or an electron-attractive group substituted with a C1-50 org. group) and II, which are useful in liq. cryst. display devices, field-effect transistors, etc., are prepd. Thus, Et 3,5-dihydroxybenzoate reacted with stearyl bromide and Na, the intermediate hydrolyzed, converted into an acid chloride, condensed with p-aminomethanesulfonylanilide, and reacted with Pb(OAc)4, forming I [R1 = 3,5-(C18H37O)2C6H3CO, X = H, Z = NSO2Me], which was coated on a Si substrate in 20 sep. monomol. layers.

ST Langmuir Blodgett film org dye; liq crystal display device dye; field effect transistor org dye

IT Dyes

(manuf. of, for Langmuir-Blodgett films)

IT Films

(Langmuir-Blodgett, dyes for, manuf. of)

IT Transistors

(field-effect, Langmuir-Blodgett film dyes for, manuf. of)

IT Optical imaging devices

(liq.-crystal, Langmuir-Blodgett film dyes for, manuf. of)

IT 100-20-9, 1,4-Benzenedicarbonyl dichloride

RL: USES (Uses)

(condensation of, with aminolauroylanilide)

IT 112-76-5, Stearoyl chloride

RL: USES (Uses)

(condensation of, with aminomethanesulfonylanilide)

IT 10147-41-8, Octadecylsulfonyl chloride

RL: USES (Uses)

(condensation of, with aminophenol)

IT 58268-37-4

RL: USES (Uses)

(condensation of, with dioctadecylamine)

IT 112-99-2, Dioctadecylamine

RL: USES (Uses)

(condensation of, with ferrocenepropionic acid)

IT 100-01-6, p-Nitroaniline, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(condensation of, with lauroyl chloride)

IT 112-16-3, Lauroyl chloride

RL: USES (Uses)

(condensation of, with nitroaniline)

IT 53250-82-1

RL: USES (Uses)

(condensation of, with octadecyleicosanoyl chloride)

IT 123-30-8

RL: USES (Uses)

(condensation of, with octadecylsulfonyl chloride)

IT 112-99-2, Dioctadecylamine

RL: USES (Uses)



(condensation of, with tetrathiavalenedicarbonyl chloride)

IT 98187-67-8P 98187-68-9P 117328-92-4P 125673-14-5P 125673-16-7P  
 125673-17-8P 125673-18-9P 125673-21-4P 125673-23-6P 125673-26-9P  
 125673-30-5P **125673-32-7P** 125673-33-8P 125673-35-0P  
 125673-37-2P 125673-38-3P 125673-40-7P 125673-41-8P 125673-43-0P  
**125673-46-3P** 125673-49-6P **125697-51-0P** 125870-40-8P  
 127067-73-6P **127067-74-7P** 127093-13-4P  
 RL: **PREP (Preparation)**  
 (manuf. of, as dye for Langmuir-Blodgett films)

IT 125697-50-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and Clemmensen redn. of)

IT 108293-08-9P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and chlorination of)

IT 125673-13-4P 125673-20-3P 125673-22-5P 125673-34-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and condensation of, with aminomethanesulfonylanilide)

IT 12261-46-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and condensation of, with dioctadecylamine)

IT 125673-24-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and demethylation of)

IT 124502-16-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and hydrogenation of)

IT 33218-49-4P 124502-14-3P 124502-17-6P 124502-18-7P 125673-27-0P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and hydrolysis of)

IT 125673-25-8P 125673-36-1P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and oxidn. of)

IT 125673-15-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and **reaction** of, in manuf. of **dyes** for  
 Langmuir-Blodgett films)

IT 125673-28-1P 125673-50-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and reaction of, in manuf. of org. dyes for Langmuir-Blodgett  
 films)

IT 70880-16-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and reaction of, with aminomethanesulfonylanilide)

IT 125673-42-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and reaction of, with bromoethanol, in manuf. of org. dyes for  
 Langmuir-Blodgett films)

- IT 89290-75-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with chlorosulfonic acid)
- IT **125673-45-2P**  
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**  
(prepn. and reaction of, with cyanogen bromide)
- IT 12086-40-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with di-Et malonate)
- IT 16099-54-0P 125673-19-0P 125673-29-2P **125673-31-6P**  
125673-36-1P **125673-51-0P**  
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**  
(prepn. and reaction of, with lead tetraacetate)
- IT 125673-39-4P 125673-48-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with malononitrile)
- IT **125673-44-1P**  
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**  
(prepn. and reaction of, with nitroaniline)
- IT 95-83-0P, 4-Chloro-o-phenylenediamine  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with octadecylsulfonyl chloride)
- IT 125673-47-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with sodium and liq. ammonia)
- IT 71356-65-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with terephthaloyl chloride)
- IT 125761-11-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with thionyl chloride)
- IT 56439-81-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with triphenylphosphine)
- IT 71226-80-7P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and redn. of)
- IT 5795-90-4P, 5.beta.-Cholanic acid ethyl ester  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and redn. of, with lithium aluminum hydride)
- IT 3110-99-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and tosylation of)
- IT 74-88-4, Methyl iodide, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
(quaternization by, of (dimethylaminomethyl)ferrocene)

IT 1271-86-9, Dimethylaminomethylferrocene  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(quaternization of, with Me iodide)

IT 84-58-2, Dichlorodicyanobenzoquinone  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**reaction** of, in manuf. of **dyes** for  
Langmuir-Blodgett films)

IT 540-51-2, 2-Bromoethanol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with (cholestanyl)methylphenylendiamine)

IT 105-53-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with (trimethylammoniomethyl)ferrocene iodide)

IT 504-53-0, Stearone 15600-08-5, 3-Cholestanone  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with Et **diethylphosphonoacetate**)

IT 506-68-3, Cyanogen bromide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with aminocholanesulfonylanilide)

IT 7144-08-3, Cholesterol chloroformate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with aminomethanesulfonylanilide)

IT **10147-41-8**, 1-Octadecanesulfonyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with chlorophenylenediamine)

IT 603-35-0, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with cholane bromide)

IT 1000-70-0, Bis(trimethylsilyl)carbodiimide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with cholanebenzoquinone)

IT 100-01-6, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with cholanesulfonyl bromide)

IT 93-02-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with **cholanetriphenylphosphonium** bromide)

IT 98-59-9, p-Toluenesulfonyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with cholestanol)

IT 122-80-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with cholestanol-toluenesulfonyl chloride condensate)

IT 867-13-0, Ethyl **diethylphosphonoacetate**  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with cholestanone)

IT 6470-87-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with cholesterol)

IT 5930-28-9, 4-Amino-2,6-dichlorophenol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with cholesterol chloroformate)

IT 112-89-0, Stearyl bromide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with di-Bu malonate)

IT 33444-72-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with dimethoxybenzaldehyde)

IT 150-78-7, p-Dimethoxybenzene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with octadecyleicosanoyl chloride)

IT 1000-70-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with octadecyleicosanylbenzenequinone)

IT 109-77-3, Malononitrile  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with octadecyleicosanylcyclohexanedione)

IT 106-50-3, 1,4-Benzenediamine, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with stearoyl chloride)

IT 120-80-9, 1,2-Benzenediol, reactions 1190-39-2, Dibutyl malonate  
 4142-98-7, Ethyl 3,5-dihydroxybenzoate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with stearyl bromide)

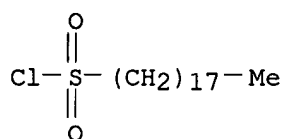
IT 546-18-9, 5.beta.-Cholanic acid  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with thionyl chloride)

IT 80-97-7, Cholestanol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with toluenesulfonyl chloride)

IT 10147-41-8, Octadecylsulfonyl chloride  
 RL: USES (Uses)  
 (condensation of, with aminophenol)

RN 10147-41-8 HCAPLUS

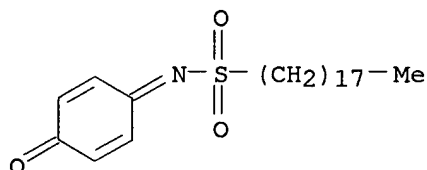
CN 1-Octadecanesulfonyl chloride (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 125673-32-7P 125673-46-3P 125697-51-0P  
 127067-74-7P  
 RL: PREP (Preparation)  
 (manuf. of, as dye for Langmuir-Blodgett films)

RN 125673-32-7 HCAPLUS

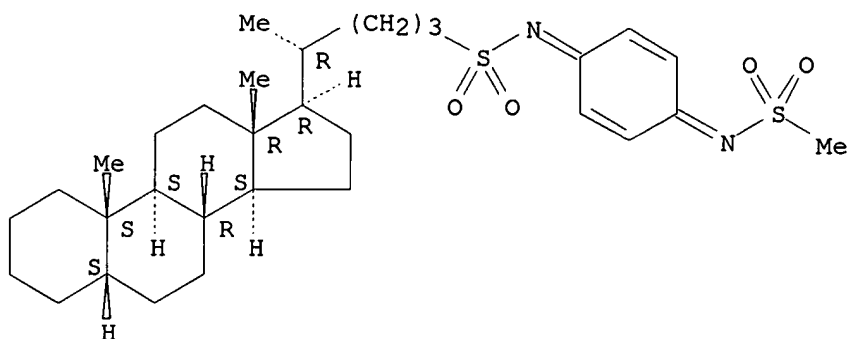
CN 1-Octadecanesulfonamide, N-(4-oxo-2,5-cyclohexadien-1-ylidene)- (9CI) (CA INDEX NAME)



RN 125673-46-3 HCAPLUS

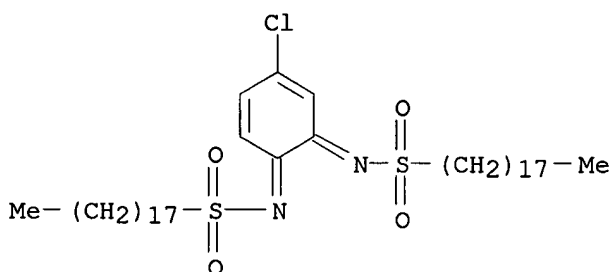
CN Cholane-24-sulfonamide, N-[4-[(methylsulfonyl)imino]-2,5-cyclohexadien-1-ylidene]-, (5.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 125697-51-0 HCAPLUS

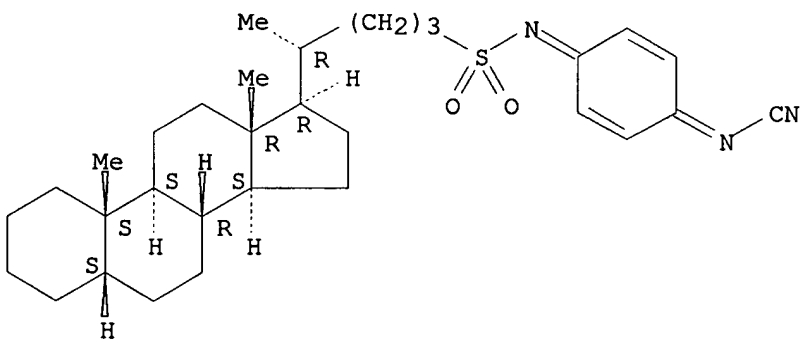
CN 1-Octadecanesulfonamide, N,N'-(4-chloro-3,5-cyclohexadiene-1,2-diylidene)bis- (9CI) (CA INDEX NAME)



RN 127067-74-7 HCAPLUS

CN Cholane-24-sulfonamide, N-[4-(cyanoimino)-2,5-cyclohexadien-1-ylidene]-, (5.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



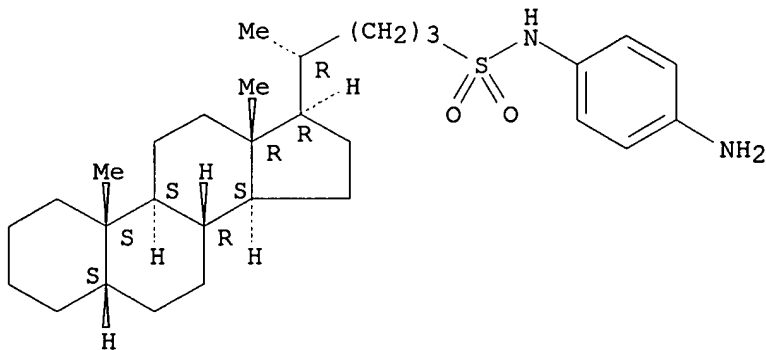
IT 125673-45-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with cyanogen bromide)

RN 125673-45-2 HCAPLUS

CN Cholane-24-sulfonamide, N-(4-aminophenyl)-, (5.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



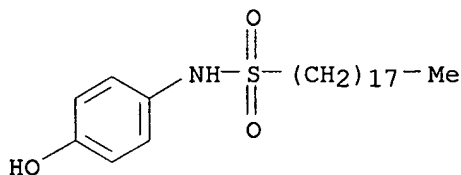
IT 125673-31-6P 125673-51-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and reaction of, with lead tetraacetate)

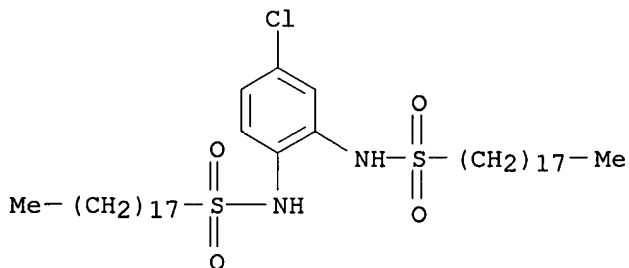
RN 125673-31-6 HCAPLUS

CN 1-Octadecanesulfonamide, N-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 125673-51-0 HCAPLUS

CN 1-Octadecanesulfonamide, N,N'-(4-chloro-1,2-phenylene)bis- (9CI) (CA INDEX NAME)



IT 125673-44-1P

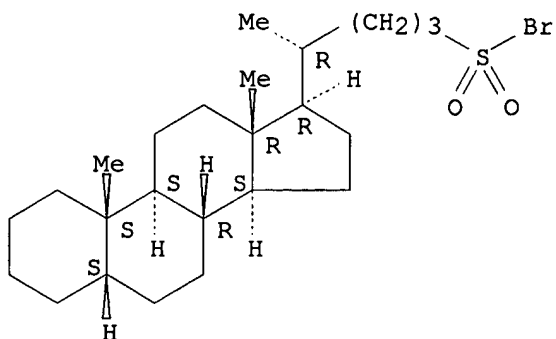
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and reaction of, with nitroaniline)

RN 125673-44-1 HCAPLUS

CN Cholane-24-sulfonyl bromide, (5.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

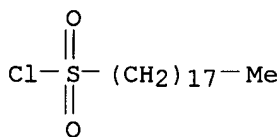


IT 10147-41-8, 1-Octadecanesulfonyl chloride

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with chlorophenylenediamine)

RN 10147-41-8 HCAPLUS

CN 1-Octadecanesulfonyl chloride (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L48 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1989:635061 HCAPLUS

DN 111:235061

TI Fiber-**reactive** nonchromogenic amines for azo **dye** intermediates

IN Stoehr, Frank Michael; Henk, Hermann; Herd, Karl Josef

PA Bayer A.-G., Fed. Rep. Ger.

SO Ger. Offen., 15 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM C07D251-44

ICS C07D251-50; C07D239-42; C07D521-00

ICA C09B062-085; C09B062-51; C09B062-245; C07D227-06; C07D247-00; C07D269-00; C07D283-00; C07D401-12; C07D295-12; C07C143-64; C07C143-66; C07C147-12; C07C143-58

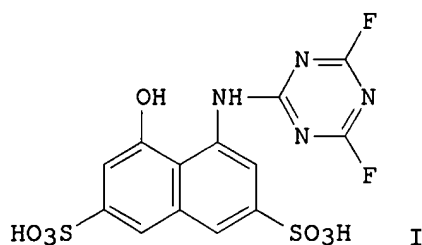
CC 41-9 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 28

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3740650	A1	19890615	DE 1987-3740650	19871201
PRAI	DE 1987-3740650		19871201		
OS	CASREACT 111:235061; MARPAT 111:235061				

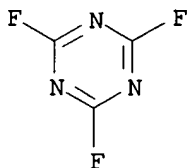
GI



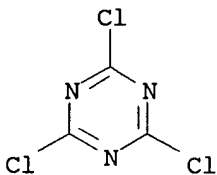
- AB The title compds. X(R)NYZ [R = H, (un)substituted C1-4 alkyl; X ; fiber-reactive residue; Y = direct bond, arom.-carboxylic bridging group, arom.-heterocyclic bridging group; Z = nonchromogenic arom.-carbocyclic or arom.-heterocyclic residue esp. of the benzene or naphthalene series]; useful as intermediates in the manuf. of fiber-**reactive** azo **dyes**, are prepd. by the condensation of H(R)NYZ with XL (L = nucleophilicity-displacable substituted such as halogen) in an aq. medium in the presence of an alkali fluoride-free buffer at an initial pH >3. 1-Amino-8-hydroxy-3,6-naphthalenedisulfonic acid was dissolved in water, and NaOH added until the sol. was pH neutral. A Na2HPO4.12H2O-NaH2PO4.2H2O buffer (pH 6) was added, the mixt. cooled, and cyanuric fluoride added, forming I.
- ST fiber reactive amine manuf; H acid cyanuric fluoride condensation; **reactive** azo **dye** intermediate amine
- IT Buffer substances and systems  
(alkali fluoride-free, for condensation of fiber-reactive compds. with amines)
- IT Amines, preparation  
RL: PREP (Preparation)  
(manuf. of fiber-**reactive**, as **reactive** azo **dye** intermediates)
- IT Condensation reaction  
(of amines with fiber-reactive groups, buffers for)
- IT **Dyes, reactive**  
(azo, intermediates for, fiber-reactive amines as, manuf. of)
- IT 62-76-0, Sodium oxalate 64-19-7, Acetic acid, uses and miscellaneous 100-21-0, Terephthalic acid, uses and miscellaneous 127-09-3, Sodium acetate 144-62-7, Oxalic acid, uses and miscellaneous 1330-43-4, Disodium **tetraborate** 7558-79-4, Disodium hydrogen phosphate 7558-80-7, Sodium dihydrogen phosphate 28313-49-7, Lithium terephthalate  
RL: USES (Uses)  
(buffers, for condensation of fiber-reactive compds. with amines)
- IT **675-14-9**, Cyanuric fluoride  
RL: USES (Uses)  
(condensation of, with amines, fiber-reactive amines from)
- IT **108-77-0**, Cyanuric chloride **697-83-6**, 5-Chloro-2,4,6-trifluoropyrimidine **72630-78-5**, 5-Chloro-2,4-difluoro-6-methylpyrimidine  
RL: USES (Uses)  
(condensation of, with amines, fiber-reactive amines from, buffers for)
- IT 87-02-5 88-63-1, 2,4-Diaminobenzenesulfonic acid  
RL: USES (Uses)  
(condensation of, with chlorotrifluoropyrimidine)



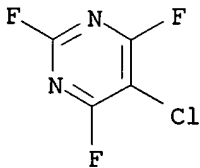
IT 2494-89-5, 4-Amino-1-.beta.-sulfatoethylsulfonylbenzene  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation of, with cyanuric chloride)  
IT 90-20-0, H Acid 121-47-1, 3-Aminobenzenesulfonic acid 130-23-4,  
8-Amino-1-hydroxy-3,5-naphthalenedisulfonic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation of, with cyanuric fluoride)  
IT 7538-88-7P 26592-28-9P 42360-28-1P  
52610-09-0P 67027-18-3P 67098-11-7P  
67098-12-8P 70233-72-6P 72630-69-4P  
RL: PREP (Preparation)  
(manuf. of, as intermediate for **reactive azo dyes**)  
IT 675-14-9, Cyanuric fluoride  
RL: USES (Uses)  
(condensation of, with amines, fiber-reactive amines from)  
RN 675-14-9 HCAPLUS  
CN 1,3,5-Triazine, 2,4,6-trifluoro- (9CI) (CA INDEX NAME)



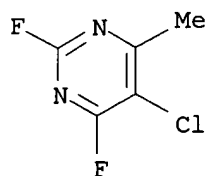
IT 108-77-0, Cyanuric chloride 697-83-6,  
5-Chloro-2,4,6-trifluoropyrimidine 72630-78-5,  
5-Chloro-2,4-difluoro-6-methylpyrimidine  
RL: USES (Uses)  
(condensation of, with amines, fiber-reactive amines from, buffers for)  
RN 108-77-0 HCAPLUS  
CN 1,3,5-Triazine, 2,4,6-trichloro- (9CI) (CA INDEX NAME)



RN 697-83-6 HCAPLUS  
CN Pyrimidine, 5-chloro-2,4,6-trifluoro- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 72630-78-5 HCAPLUS  
CN Pyrimidine, 5-chloro-2,4-difluoro-6-methyl- (9CI) (CA INDEX NAME)



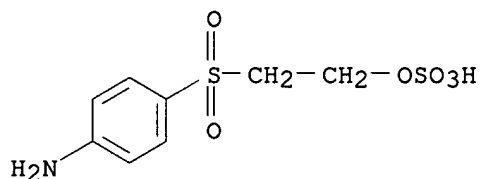
IT **2494-89-5**, 4-Amino-1-.beta.-sulfatoethylsulfonylbenzene

RL: RCT (Reactant); RACT (Reactant or reagent)

(condensation of, with cyanuric chloride)

RN 2494-89-5 HCAPLUS

CN Ethanol, 2-[(4-aminophenyl)sulfonyl]-, hydrogen sulfate (ester) (9CI) (CA INDEX NAME)



IT **7538-88-7P 26592-28-9P 42360-28-1P**

**52610-09-0P 67027-18-3P 67098-11-7P**

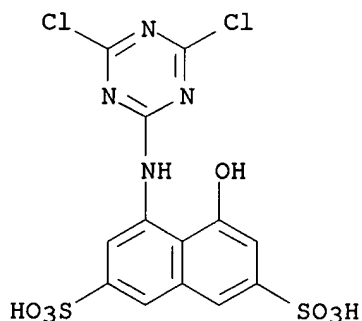
**67098-12-8P 70233-72-6P 72630-69-4P**

RL: **PREP (Preparation)**

(manuf. of, as intermediate for **reactive azo dyes**)

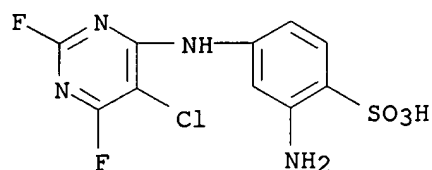
RN 7538-88-7 HCAPLUS

CN 2,7-Naphthalenedisulfonic acid, 4-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]-5-hydroxy- (9CI) (CA INDEX NAME)



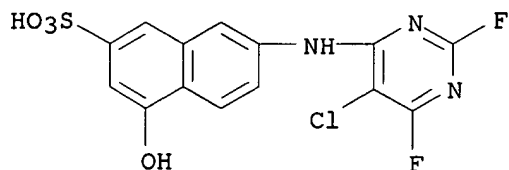
RN 26592-28-9 HCAPLUS

CN Benzenesulfonic acid, 2-amino-4-[(5-chloro-2,6-difluoro-4-pyrimidinyl)amino]- (9CI) (CA INDEX NAME)



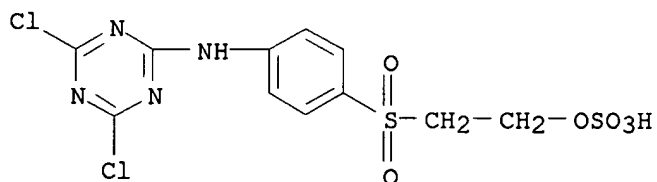
RN 42360-28-1 HCAPLUS

CN 2-Naphthalenesulfonic acid, 7-[(5-chloro-2,6-difluoro-4-pyrimidinyl)amino]-4-hydroxy- (9CI) (CA INDEX NAME)



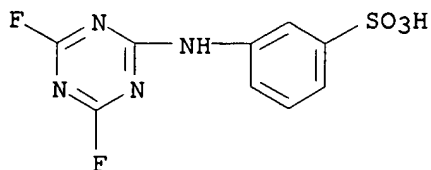
RN 52610-09-0 HCAPLUS

CN Ethanol, 2-[[4-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]phenyl]sulfonyl]-, hydrogen sulfate (ester) (9CI) (CA INDEX NAME)



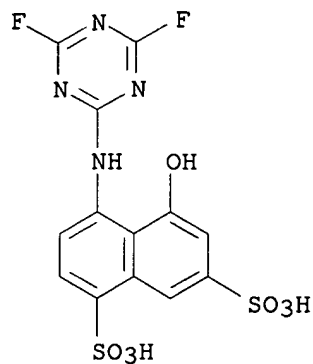
RN 67027-18-3 HCAPLUS

CN Benzenesulfonic acid, 3-[(4,6-difluoro-1,3,5-triazin-2-yl)amino]- (9CI) (CA INDEX NAME)



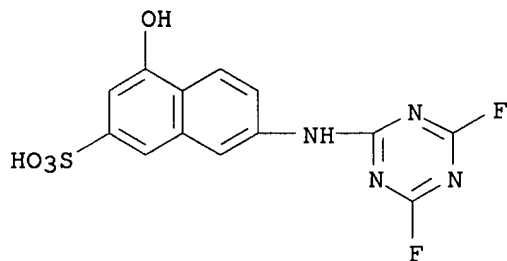
RN 67098-11-7 HCAPLUS

CN 1,7-Naphthalenedisulfonic acid, 4-[(4,6-difluoro-1,3,5-triazin-2-yl)amino]-5-hydroxy- (9CI) (CA INDEX NAME)



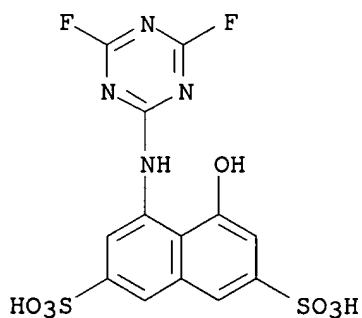
RN 67098-12-8 HCAPLUS

CN 2-Naphthalenesulfonic acid, 7-[(4,6-difluoro-1,3,5-triazin-2-yl)amino]-4-hydroxy- (9CI) (CA INDEX NAME)



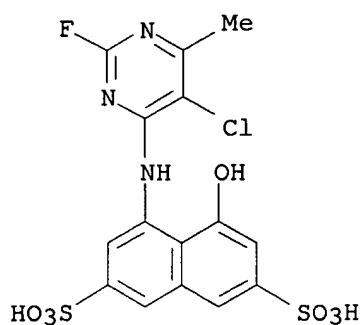
RN 70233-72-6 HCAPLUS

CN 2,7-Naphthalenedisulfonic acid, 4-[(4,6-difluoro-1,3,5-triazin-2-yl)amino]-5-hydroxy- (9CI) (CA INDEX NAME)



RN 72630-69-4 HCAPLUS

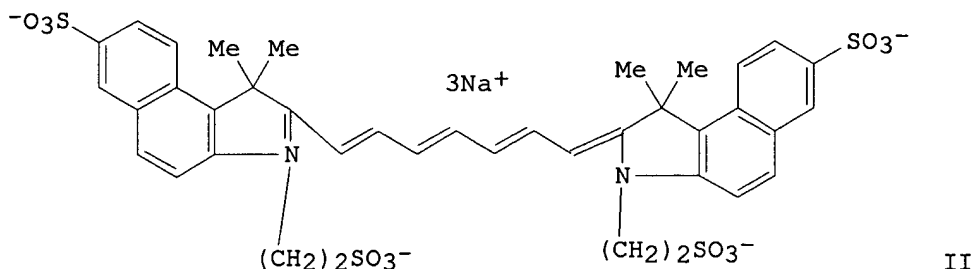
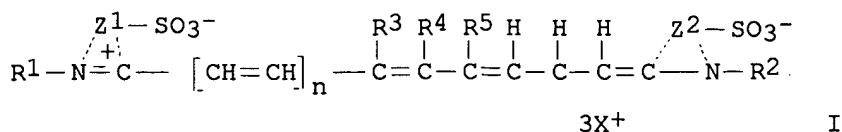
CN 2,7-Naphthalenedisulfonic acid, 4-[(5-chloro-2-fluoro-6-methyl-4-pyrimidinyl)amino]-5-hydroxy- (9CI) (CA INDEX NAME)



L48 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1989:116677 HCAPLUS  
 DN 110:116677  
 TI Infrared filter dyes for photographic elements  
 IN Parton, Richard L.; Gingello, Anthony; Collett, David J.; Stegman, David Alan  
 PA Eastman Kodak Co., USA  
 SO Eur. Pat. Appl., 13 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM C09B023-08  
 ICS G03C001-84  
 CC 41-5 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
 Section cross-reference(s): 74, 77

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 288076	A2	19881026	EP 1988-106493	19880422
	EP 288076	A3	19891011		
	EP 288076	B1	19910904		
	R: BE, DE, FR, GB, NL				
	US 4871656	A	19891003	US 1988-166134	19880310
	CA 1321316	A1	19930817	CA 1988-563805	19880411
	JP 01033547	A2	19890203	JP 1988-98423	19880422
PRAI	US 1987-41955		19870424		
	US 1988-166134		19880310		
OS	MARPAT 110:116677				
GI					



AB The title compds. I [R1, R2 = C2-4 sulfoalkyl, C2-4 carboxyalkyl, C2-4 sulfatoalkyl; R3, R5 = H, atoms necessary to form a 5- or 6-numbered carbocyclic ring; R4 = H, C1-4 alkyl, halogen, CN, aryl, NR6R7; R6, R7 = C1-6 alkyl, aryl; X = cation, Z1, Z2 = atoms need to complete an indole, naphthindole, or benzindole nucleus; R6R7 may be a 5- or 6-membered heterocyclic ring], useful as IR-absorbing dyes for photog. elements, are prepd. Anhydro-7-sulfo-3-(2-sulfoethyl)-1,1,2-trimethyl-1H-benz[e]indolium hydroxide Na salt was refluxed with glutacondialdehyde dianil hydrochloride in Ac2O for 4 mins, producing II, .lambda.max (MeOH) 784 nm (.epsilon. = 22.34 .times. 104).

ST IR filter dye photog element

IT Photographic films

(IR-absorbing filter dyes for, manuf. of)

IT **119280-60-3P**

RL: **PREP (Preparation)**

(manuf. of, as IR-absorbing dye for photog.)

IT **119261-34-6P 119261-35-7P 119261-38-0P**

RL: **PREP (Preparation)**

(manuf. of, as IR-absorbing dye for photog. applications)

IT **119261-36-8P 119261-37-9P**

RL: RCT (Reactant); **SPN (Synthetic preparation); PREP**

**(Preparation); RACT (Reactant or reagent)**

(prepn. and **reaction** of, in IR-absorbing **dye** manuf.)

IT **1622-32-8**, 2-Chloroethanesulfonyl chloride 51143-35-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(**reaction** of, in IR-absorbing **dye** manuf.)

IT 113995-61-2, 1-[2,5-Bis(anilinomethylene)cyclopentylidene]-4-

ethoxycarbonylpiperazinium **tetrafluoroborate**

RL: RCT (Reactant); RACT (Reactant or reagent)

(**reaction** of, with IR-absorbing **dye** manuf.)

IT 41532-84-7, 1,1,2-Trimethyl-1H-benz[e]indole

RL: RCT (Reactant); RACT (Reactant or reagent)

(sulfonation of)

IT **119280-60-3P**

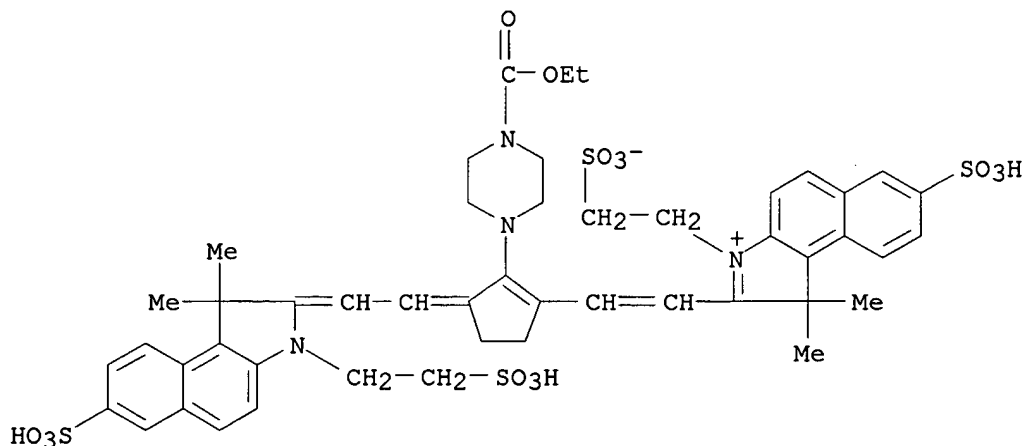
RL: **PREP (Preparation)**

(manuf. of, as IR-absorbing dye for photog.)

RN 119280-60-3 HCAPLUS

CN 1H-Benz[e]indolium, 2-[2-[3-[[1,3-dihydro-1,1-dimethyl-7-sulfo-3-(2-

sulfoethyl)-2H-benz[e]indol-2-ylidene]ethylidene]-2-[4-(ethoxycarbonyl)-1-piperazinyl]-1-cyclopenten-1-yl]ethenyl]-1,1-dimethyl-7-sulfo-3-(2-sulfoethyl)-, inner salt, trisodium salt (9CI) (CA INDEX NAME)



⊕3 Na

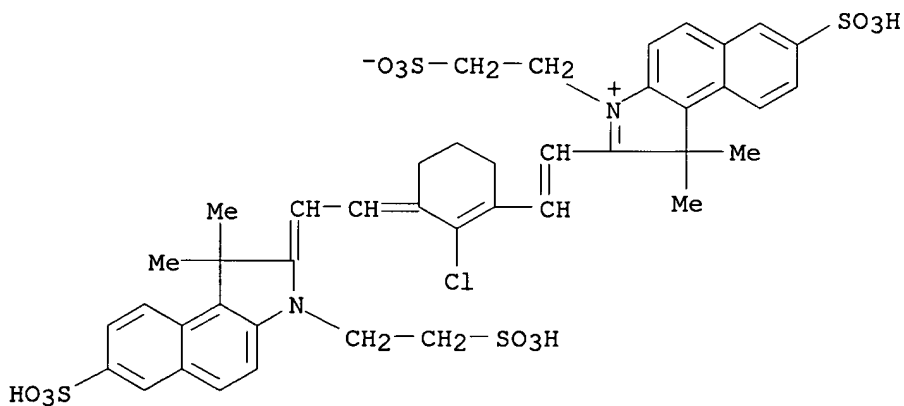
IT 119261-34-6P 119261-35-7P 119261-38-0P

RL: PREP (Preparation)

(manuf. of, as IR-absorbing dye for photog. applications)

RN 119261-34-6 HCAPLUS

CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1,1-dimethyl-7-sulfo-3-(2-sulfoethyl)-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-1,1-dimethyl-7-sulfo-3-(2-sulfoethyl)-, inner salt, tripotassium salt (9CI) (CA INDEX NAME)

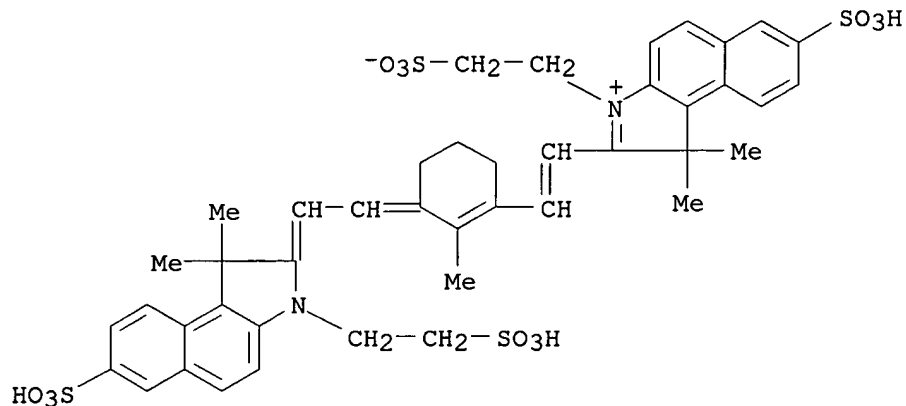


⊙3 K

RN 119261-35-7 HCAPLUS

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

CN 1H-Benz[e]indolium, 2-[2-[3-[[1,3-dihydro-1,1-dimethyl-7-sulfo-3-(2-sulfoethyl)-2H-benz[e]indol-2-ylidene]ethylidene]-2-methyl-1-cyclohexen-1-yl]ethenyl]-1,1-dimethyl-7-sulfo-3-(2-sulfoethyl)-, inner salt, tripotassium salt (9CI) (CA INDEX NAME)

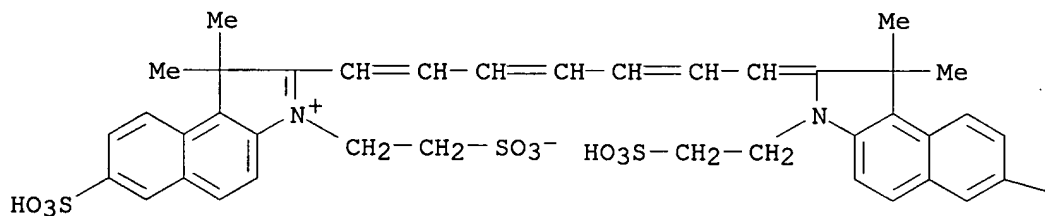


⊕3 K

RN 119261-38-0 HCAPLUS

CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-7-sulfo-3-(2-sulfoethyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-7-sulfo-3-(2-sulfoethyl)-, inner salt, trisodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



⊕3 Na

PAGE 1-B

— SO<sub>3</sub>H



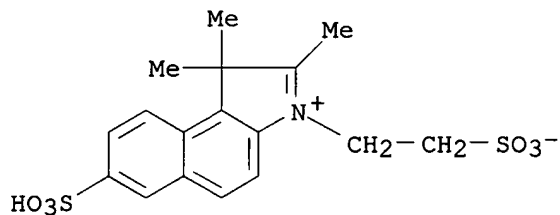
IT 119261-36-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and reaction of, in IR-absorbing dye manuf.)

RN 119261-36-8 HCAPLUS

CN 1H-Benz[e]indolium, 1,1,2-trimethyl-7-sulfo-3-(2-sulfoethyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



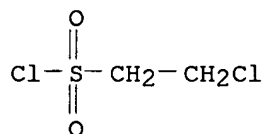
O Na

IT 1622-32-8, 2-Chloroethanesulfonyl chloride

RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, in IR-absorbing dye manuf.)

RN 1622-32-8 HCAPLUS

CN Ethanesulfonyl chloride, 2-chloro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L48 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1988:483382 HCAPLUS

DN 109:83382

TI Toners and cyanohydroxypyridone monoazo yellow dyes used therein

IN Chapman, Derek D.; Harmon, Julie P.

PA Eastman Kodak Co., USA

SO U.S., 8 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM G03G009-08

ICS C09B029-36

NCL 430106000

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 41

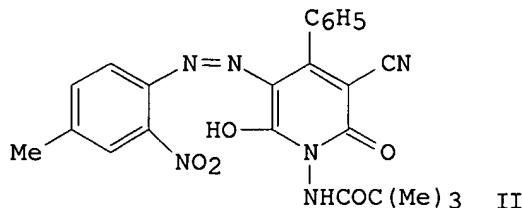
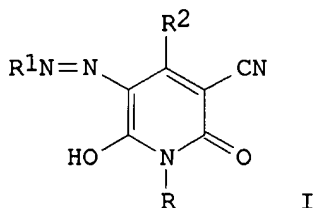
FAN.CNT 1

PATENT NO.

KIND DATE

APPLICATION NO. DATE

PI	US 4734349	A	19880329	US 1986-910032	19860922
PRAI	US 1986-910032		19860922		
GI					



AB A powd. electrostatog. toner compn. comprises a thermoplastic polymer blended with 0.5-10 % of a yellow dye I [R = NHR3, R4R5; R3 = SO2R6, SO2R7, COR7; R6 = Ph or lower alkyl-substituted Ph; R7 = C1-12 alkyl; R5 = C1-4 alkylene; R4 = NHSO2R6, C6H4SO2NHR7; R2 = C1-10 alkyl, R6; R1 = radical of nonionic diazo component of benzene or naphthalene series]. The dyes can be used where images are fixed by thermal fusion. Thus, II was prepd. by diazotization of a nitrotoluidine and reaction with a pivalamidopyridone. A toner sample was prepd. by blending glycerol-glutaric acid-poly(ethylene glycol)-terephthalic acid copolymer, **methyltriphenylphosphonium** tosylate, and II. The toner passed the tests for light fading, soly., bleeding, and sublimation. The dye did not change its hue in contact with a metal.

ST electrostatog toner yellow dye; cyano hydroxy pyridone azo dye

IT Dyes, azo  
(mono-, cyanohydroxypyridone yellow, for electrostatog. toner)

IT Electrophotographic developers  
(toners, cyanohydroxypyridone monoazo yellow dye)

IT 66176-39-4P 115725-67-2P **115725-69-4P** 115725-71-8P  
115725-72-9P  
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)  
(prepn. and reaction of, in prepn. of yellow azo dye for electrostatog. toner)

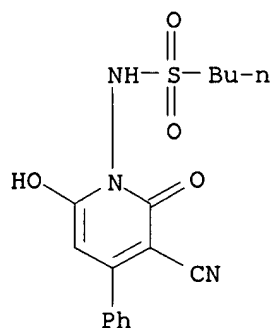
IT 115725-68-3P **115725-70-7P** 115725-73-0P 115725-74-1P  
115725-75-2P 115725-76-3P  
RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(prepn. and use of, in electrostatog. toner)

IT 89-62-3, 2-Nitro-p-toluidine 98-59-9, Toluenesulfonyl chloride  
104-75-6, 2-Ethylhexylamine **2386-60-9**, 1-Butanesulfonyl chloride  
3282-30-2, Pivaloyl chloride 7087-68-5, N,N-Diisopropylethylamine  
73673-35-5 80162-45-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**reactions** of, cyanohydroxypyridone monoazo yellow dye from)

IT **115725-69-4P**  
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)  
(prepn. and reaction of, in prepn. of yellow azo dye for electrostatog. toner)

RN 115725-69-4 HCAPLUS

CN 1-Butanesulfonamide, N-(3-cyano-6-hydroxy-2-oxo-4-phenyl-1(2H)-pyridinyl)-(9CI) (CA INDEX NAME)

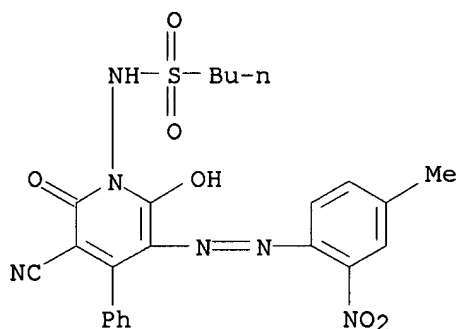


IT 115725-70-7P

RL: **SPN (Synthetic preparation); PREP (Preparation)**  
 (prepn. and use of, in electrostatog. toner)

RN 115725-70-7 HCAPLUS

CN 1-Butanesulfonamide, N-[3-cyano-6-hydroxy-5-[(4-methyl-2-nitrophenyl)azo]-2-oxo-4-phenyl-1(2H)-pyridinyl]- (9CI) (CA INDEX NAME)

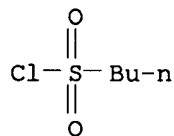


IT 2386-60-9, 1-Butanesulfonyl chloride

RL: **RCT (Reactant); RACT (Reactant or reagent)**  
 (reactions of, cyanohydroxypyridone monoazo yellow dye from)

RN 2386-60-9 HCAPLUS

CN 1-Butanesulfonyl chloride (7CI, 8CI, 9CI) (CA INDEX NAME)



L48 ANSWER 21 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1987:638518 HCAPLUS

DN 107:238518

TI **Reactive dye**-containing aqueous liquid composition

IN Yamauchi, Noriaki; Imada, Kunihiro; Ikeou, Shinei

PA Sumitomo Chemical Co., Ltd., Japan

SO Eur. Pat. Appl., 35 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C09B067-26

ICS D06P001-382

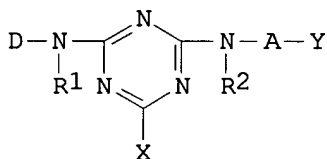
ICA C09B062-02

CC 40-6 (Textiles and Fibers)

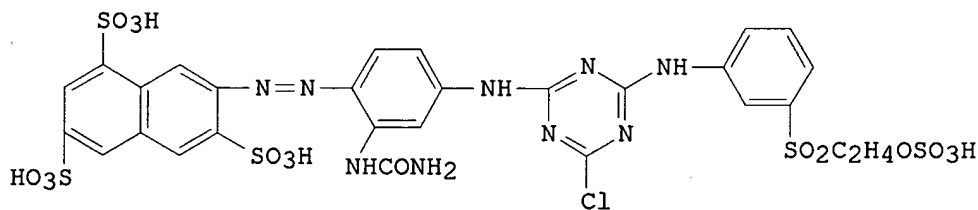
Section cross-reference(s): 41

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 234573	A2	19870902	EP 1987-102710	19870226
	EP 234573	A3	19910102		
	EP 234573	B1	19931229		
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	JP 62199657	A2	19870903	JP 1986-43444	19860227
	JP 07081091	B4	19950830		
	<u>US 4780104</u>	A	19881025	US 1987-17054	19870220
	ES 2061443	T3	19941216	ES 1987-102710	19870226
PRAI	JP 1986-43444		19860227		
GI					



I



II

AB The title dye solns., which have excellent low temp. storage stability and are readily usable in automatic weighing and dispensing systems, comprise 5-50% I [A = (substituted) phenylene, (substituted) naphthalene; D = sulfo group-contg. org. dye residue; R1, R2 = H, (substituted) C1-4 alkyl; X = halogen; Y = SO2CH:CH2, SO2CH2CH2Z; Z = alkali-removable group], 0.1-10% caprolactam, and balance water. The compns. have pH 3-7. Thus, 30 parts .epsilon.-caprolactam was mixed with 900 parts of a dye soln. contg. II 11, NaCl 4, and Na2SO4 1%. The mixt. was formed into a clear soln. and 5 parts NaOAc was dissolved in it, the soln. pH was adjusted to 5.3 with 10% H2SO4, and then mixed with H2O to make 1000 parts. This dye soln. was stored for 2 mo at 0.degree. without pptn. of II.

ST **reactive dye** soln storage stable; caprolactam **reactive dye** soln; pptn stable **reactive dye** soln

IT **Dyeing**  
 (storage-stable **reactive dye** solns. for, manuf. of)

IT **Dyes, reactive**  
 (bifunctional, storage-stable solns. contg.)

IT 62-76-0, Sodium oxalate 127-08-2, Potassium acetate 127-09-3  
 583-52-8, Potassium oxalate 1333-73-9, Sodium **borate**  
 7601-54-9, Sodium phosphate 7778-53-2, Potassium phosphate  
 RL: USES (Uses)  
 (buffer, storage-stable **reactive dye** soln contg.)

IT 105-60-2, .epsilon.-Caprolactam, uses and miscellaneous  
 RL: USES (Uses)  
 (reactive dye soln. contg., storage-stable)

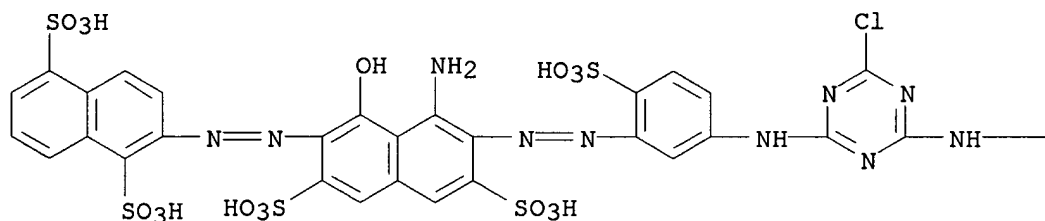
IT 147-14-8DP, Copper phthalocyanine, sulfonated, bifunctional  
**reactive** group deriv. 80315-16-8P 86293-57-4P  
 89933-65-3P 105936-66-1P 105956-68-1P  
 107143-06-6P 107143-12-4P 109752-12-7P  
 111672-43-6P 111691-97-5P  
 RL: PREP (Preparation)  
 (reactive dye, storage-stable solns. contg., manuf.  
 of)

IT 80315-16-8P 86293-57-4P 89933-65-3P  
 105936-66-1P 105956-68-1P 107143-06-6P  
 107143-12-4P 109752-12-7P 111672-43-6P  
 111691-97-5P  
 RL: PREP (Preparation)  
 (reactive dye, storage-stable solns. contg., manuf.  
 of)

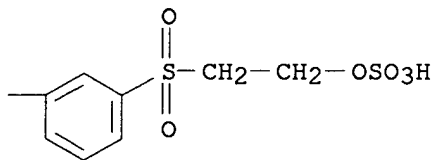
RN 80315-16-8 HCAPLUS

CN 1,5-Naphthalenedisulfonic acid, 2-[[8-amino-7-[[5-[[4-chloro-6-[[3-[[2-  
 (sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-  
 sulfophenyl]azo]-1-hydroxy-3,6-disulfo-2-naphthalenyl]azo]- (9CI) (CA  
 INDEX NAME)

PAGE 1-A



PAGE 1-B

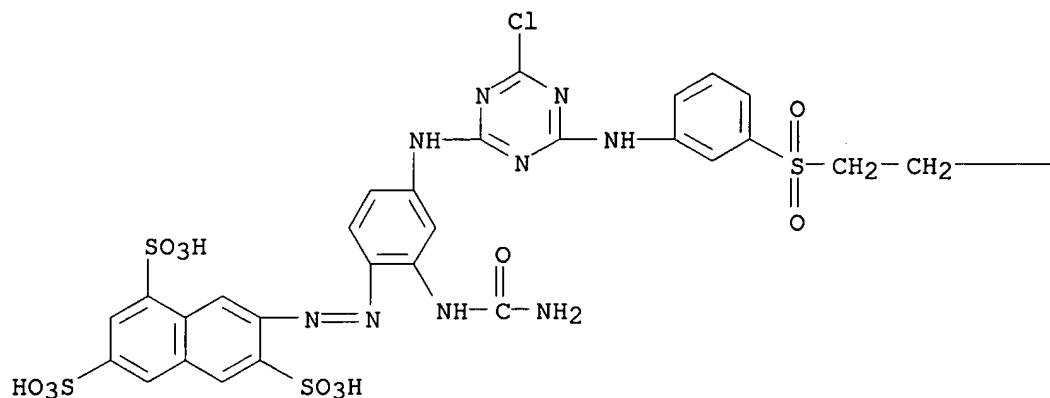


RN 86293-57-4 HCAPLUS

CN 1,3,6-Naphthalenetrisulfonic acid, 7-[[2-[(aminocarbonyl)amino]-4-[[4-

chloro-6-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]phenyl]azo]- (9CI) (CA INDEX NAME)

PAGE 1-A



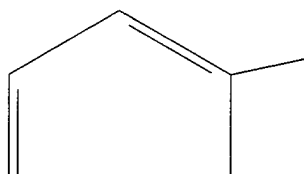
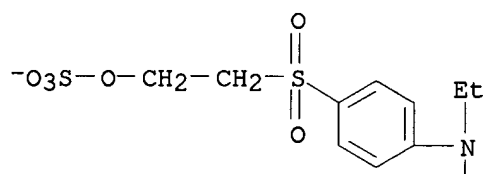
PAGE 1-B

—OSO<sub>3</sub>H

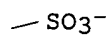
RN 89933-65-3 HCAPLUS

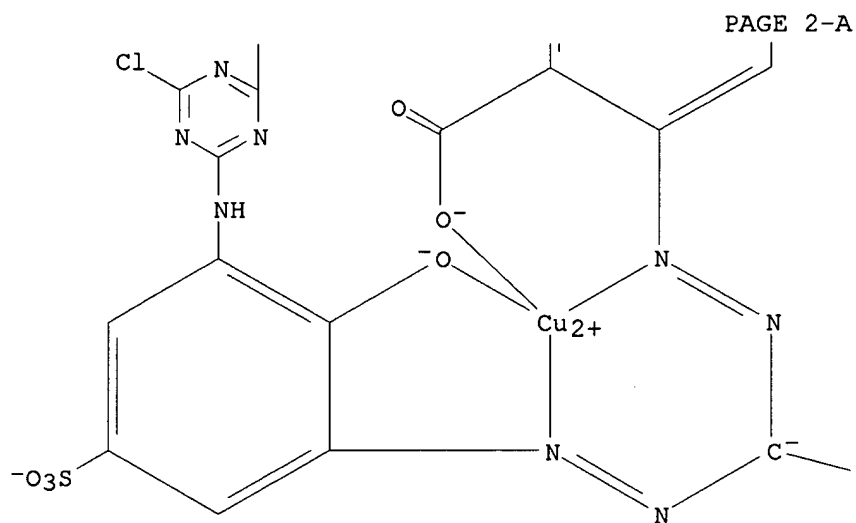
CN Cuprate(4-), [2-[[[3-[[4-chloro-6-[ethyl[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-(hydroxy-.kappa.O)-5-sulfohenyl]azo-.kappa.N2]phenylmethyl]azo-.kappa.N1]-4-sulfobenzoato(6-)-.kappa.O]-, tetrahydrogen (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B





● 4 H<sup>+</sup>

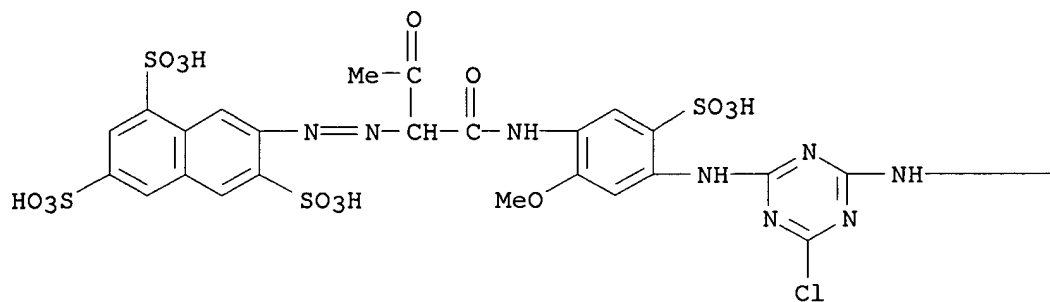
PAGE 2-B

— Ph

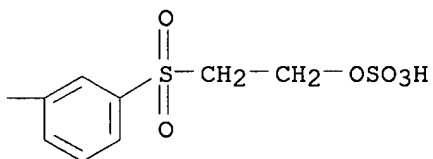
RN 105936-66-1 HCAPLUS  
 CN 1,3,6-Naphthalenetrisulfonic acid, 7-[[1-[[[4-[[4-chloro-6-[[3-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-methoxy-5-sulfohenyl]amino]carbonyl]-2-oxopropyl]azo]- (9CI) (CA INDEX NAME)



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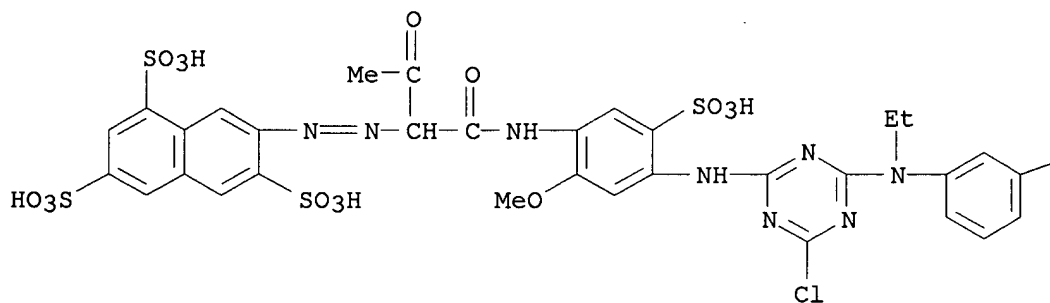
PAGE 1-B



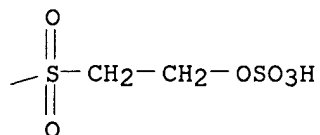
RN 105956-68-1 HCAPLUS

CN 1,3,6-Naphthalenetrisulfonic acid, 7-[[[1-[[[4-[[4-chloro-6-[ethyl[3-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-methoxy-5-sulphophenyl]amino]carbonyl]-2-oxopropyl]azo]- (9CI) (CA INDEX NAME)

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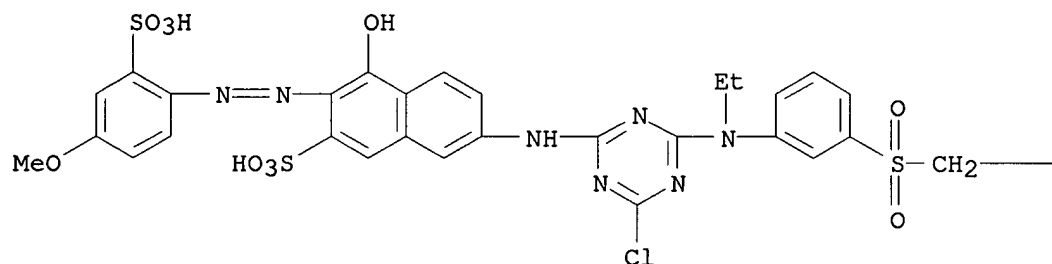
PAGE 1-B



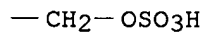
RN 107143-06-6 HCAPLUS

CN 2-Naphthalenesulfonic acid, 7-[[4-chloro-6-[ethyl[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[(4-methoxy-2-sulfophenyl)azo]- (9CI) (CA INDEX NAME)

PAGE 1-A



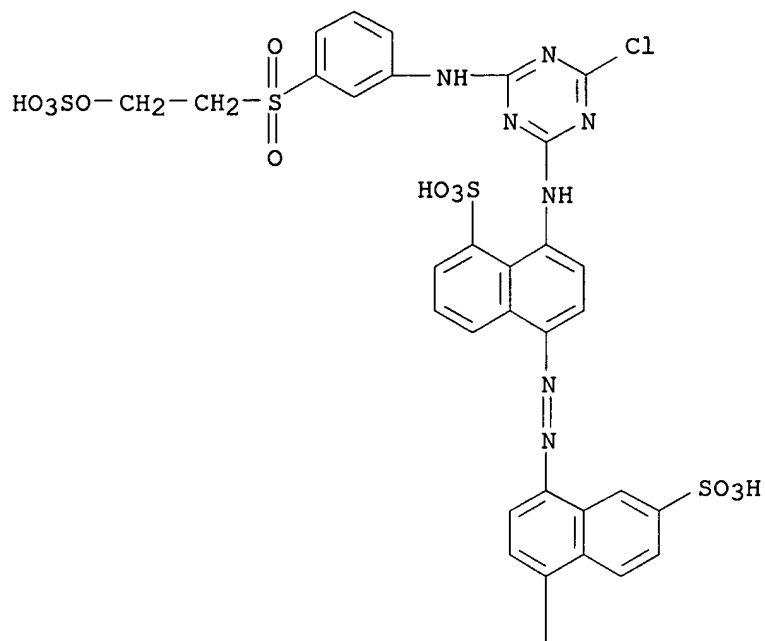
PAGE 1-B



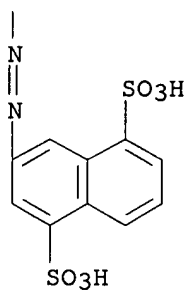
RN 107143-12-4 HCAPLUS

CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[[4-chloro-6-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-5-sulfo-1-naphthalenyl]azo]-6-sulfo-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)

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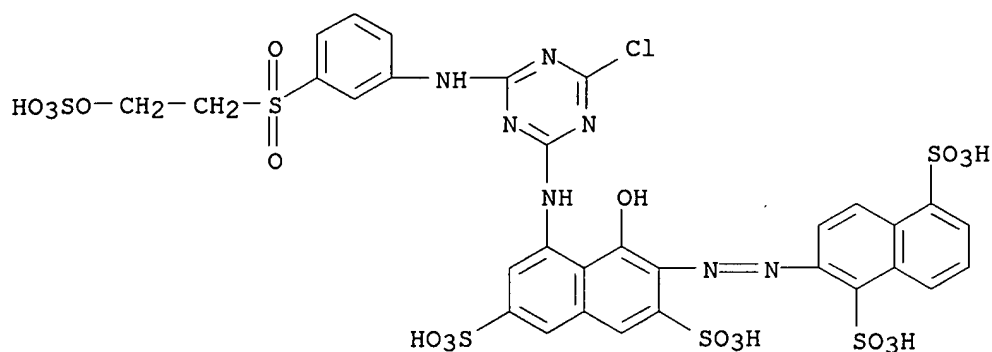


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RN 109752-12-7 HCAPLUS

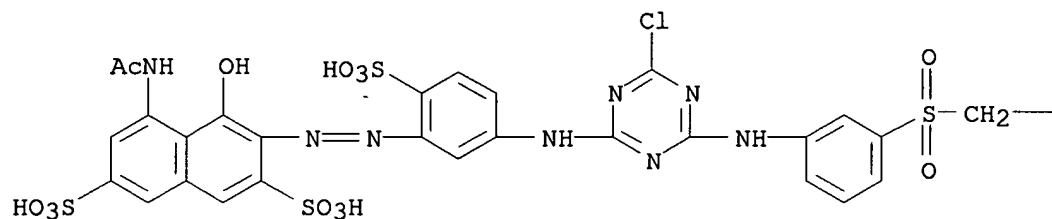
CN 1,5-Naphthalenedisulfonic acid, 2-[[[8-[[4-chloro-6-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-1-hydroxy-3,6-disulfo-2-naphthalenyl]azo]- (9CI) (CA INDEX NAME)



RN 111672-43-6 HCAPLUS

CN 2,7-Naphthalenedisulfonic acid, 5-(acetylamino)-3-[[5-[[4-chloro-6-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-sulphophenyl]azo]-4-hydroxy- (9CI) (CA INDEX NAME)

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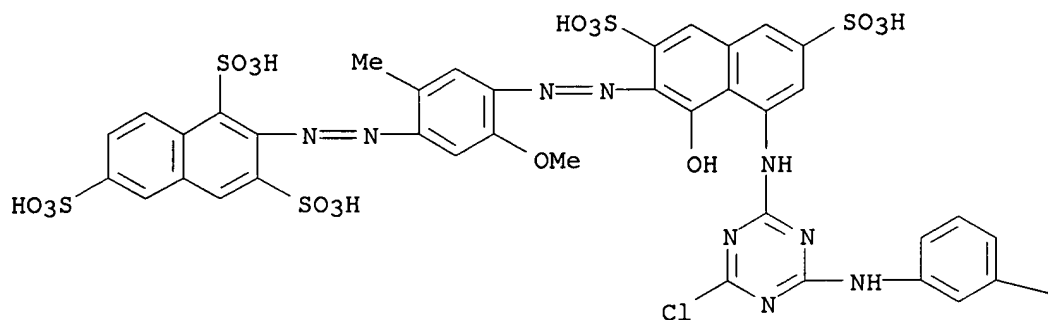
PAGE 1-B

—CH<sub>2</sub>—OSO<sub>3</sub>H

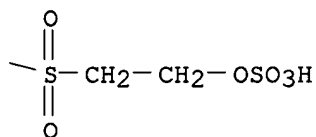
RN 111691-97-5 HCAPLUS

CN 1,3,6-Naphthalenetrisulfonic acid, 2-[[4-[[8-[[4-chloro-6-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-1-hydroxy-3,6-disulfo-2-naphthalenyl]azo]-5-methoxy-2-methylphenyl]azo]- (9CI) (CA INDEX NAME)

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PAGE 1-B



L48 ANSWER 22 OF 28 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1987:467994 HCAPLUS  
 DN 107:67994  
 TI Photographic image formation method  
 IN Kamitakahara, Atsushi; Takahashi, Nensho; Iwagaki, Masaru; Kunieda, Sunao  
 PA Konishiroku Photo Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 48 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G03C007-40  
 ICS G03C001-12  
 ICA C07D421-06; C07D517-04; C07D517-06; C07D519-00  
 ICI C07D421-06, C07D231-00, C07D293-00; C07D421-06, C07D263-00, C07D293-00;  
 C07D421-06, C07D277-00, C07D293-00; C07D519-00, C07D517-06; C07D519-00,  
 C07D517-04  
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 28, 41

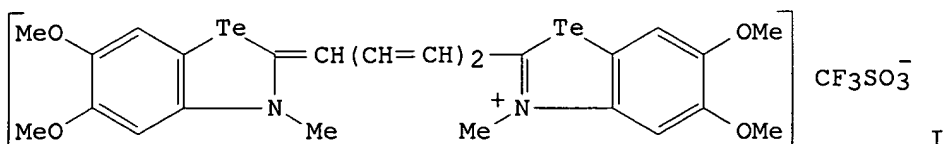
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	JP 61277951	A2	19861208	JP 1985-119365	19850601

PRAI JP 1985-119365

19850601

GI



AB In the claimed photog. imaging process, a photog. photosensitive material sensitized with a sensitizer dye having .gtoreq.1 5-membered heterocyclic ring in which N and Te atoms are bonded via a C atom is processed by using a stabilization-washing soln. without washing after (bleach)-fixing. The method gives photographs with very few stains. Thus, a test photog. photosensitive material having a red-sensitive emulsion layer sensitized with I was imagewise exposed, color-developed, bleach-fixed, and treated in a stabilization-washing soln. contg. 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, ethylene glycol, 2-octyl-4-isothiazolin-3-one, 1-hydroxyethylidene-1,1-diphosphonic acid, BiCl<sub>2</sub>, NH<sub>4</sub>OH, and nitrilotrimethylenephosphoric acid to give images with very few stains.

ST color photog imaging process; stabilization washing color photog processing; sensitizer dye photog tellurazole deriv

IT Photographic processing  
(color, washing-stabilization in)

IT Photographic sensitizers  
(spectral, tellurazole derivs. as)

IT 60-00-4, Ethylenediaminetetraacetic acid, uses and miscellaneous  
107-21-1, uses and miscellaneous 2224-44-4, 4-(2-Nitrobutyl)morpholine  
2682-20-4, 2-Methyl-4-isothiazolin-3-one **2809-21-4**,  
1-Hydroxyethylidene-1,1-diphosphonic acid 6419-19-8,  
Nitrilotrimethylenephosphonic acid 10196-04-0, Ammonium sulfite  
18756-62-2 26172-55-4, 5-Chloro-2-methyl-4-isothiazolin-3-one  
26530-20-1 57029-18-2, Polyhexamethylene guanidine hydrochloride  
109057-25-2

RL: USES (Uses)

(color photog. stabilizing-washing soln. contg.)

IT 78-59-1, Isophorone 122-51-0, Ethyl orthoformate 333-27-7, Methyl  
trifluoromethanesulfonate 598-03-8 622-15-1, Diphenylformamidine  
3176-77-0 31061-26-4 35080-47-8 55425-51-9 70867-59-3 75504-95-9  
89723-09-1 97425-67-7 97426-26-1 97426-32-9 97426-39-6  
97426-42-1 97426-46-5 97426-50-1 97503-64-5 97503-67-8  
97503-72-5 106532-59-6 108285-75-2 108285-76-3 108286-01-7  
108286-28-8 108286-35-7 108465-18-5 108465-20-9 108465-21-0  
108465-23-2 108465-24-3 108465-40-3 108465-41-4 108465-42-5  
108465-43-6 108497-57-0 108497-80-9 108497-83-2 108497-85-4  
109057-15-0 109057-18-3 109057-19-4 109057-20-7 109057-21-8  
109057-22-9 109057-23-0 109057-24-1 109135-83-3

RL: TEM (Technical or engineered material use); USES (Uses)  
(photog. sensitizer)

IT **102365-43-5P** **108285-81-0P** 108286-34-6P  
**108318-85-0P** **108410-79-3P** **108464-91-1P**  
108464-92-2P **108464-93-3P** **108464-94-4P** 108464-95-5P  
**108465-25-4P** **108465-26-5P** **108465-44-7P**  
108497-55-8P 108497-56-9P 109057-17-2P **109135-82-2P**

## RL: PREP (Preparation)

(prepn. of, as photog. sensitizer)

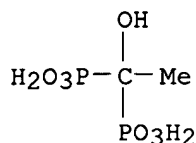
IT 2809-21-4, 1-Hydroxyethylidene-1,1-diphosphonic acid

RL: USES (Uses)

(color photog. stabilizing-washing soln. contg.)

RN 2809-21-4 HCAPLUS

CN Phosphonic acid, (1-hydroxyethylidene)bis- (9CI) (CA INDEX NAME)



IT 102365-43-5P 108285-81-0P 108318-85-0P

108410-79-3P 108464-91-1P 108464-93-3P

108464-94-4P 108465-25-4P 108465-26-5P

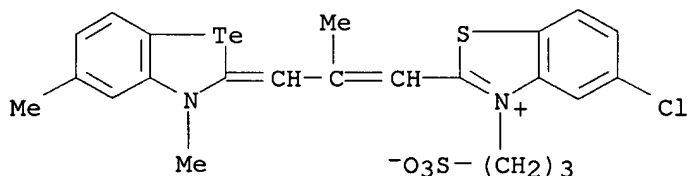
108465-44-7P 109135-82-2P

## RL: PREP (Preparation)

(prepn. of, as photog. sensitizer)

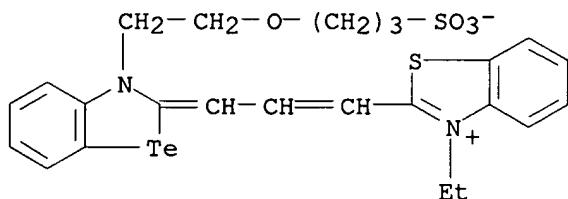
RN 102365-43-5 HCAPLUS

CN Benzothiazolium, 5-chloro-2-[3-(3,5-dimethyl-2(3H)-benzotellurazolylidene)-2-methyl-1-propenyl]-3-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



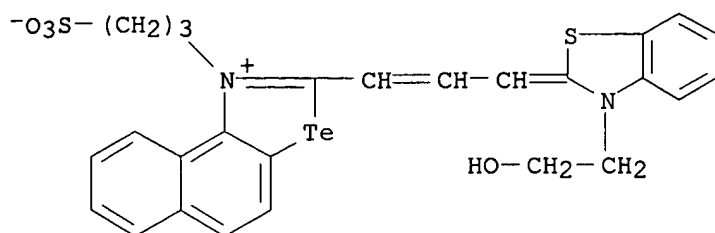
RN 108285-81-0 HCAPLUS

CN Benzothiazolium, 3-ethyl-2-[3-[3-[2-(3-sulfopropoxy)ethyl]-2(3H)-benzotellurazolylidene]-1-propenyl]-, inner salt (9CI) (CA INDEX NAME)



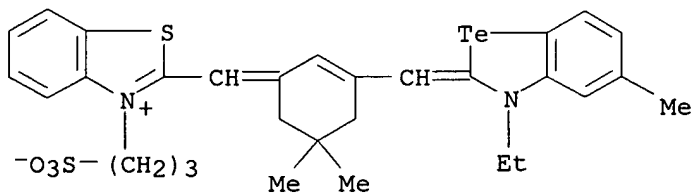
RN 108318-85-0 HCAPLUS

CN Naphtho[1,2-d]tellurazolium, 2-[3-[3-(2-hydroxyethyl)-2(3H)-benzothiazolylidene]-1-propenyl]-1-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



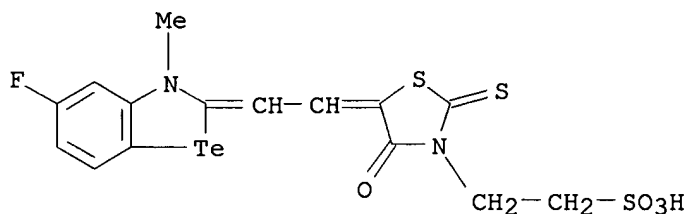
RN 108410-79-3 HCAPLUS

CN Benzothiazolium, 2-[[3-[(3-ethyl-5-methyl-2(3H)-benzotellurazolylidene)methyl]-5,5-dimethyl-2-cyclohexen-1-ylidene]methyl]-3-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



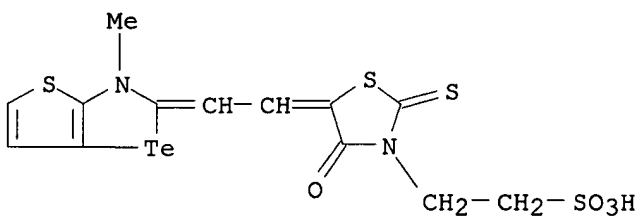
RN 108464-91-1 HCAPLUS

CN 3-Thiazolidineethanesulfonic acid, 5-[(5-fluoro-3-methyl-2(3H)-benzotellurazolylidene)ethylidene]-4-oxo-2-thioxo- (9CI) (CA INDEX NAME)



RN 108464-93-3 HCAPLUS

CN 3-Thiazolidineethanesulfonic acid, 5-[(3-methylthieno[2,3-d]tellurazol-2(3H)-ylidene)ethylidene]-4-oxo-2-thioxo- (9CI) (CA INDEX NAME)

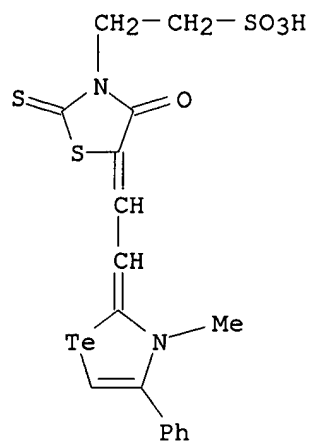


RN 108464-94-4 HCAPLUS

CN 3-Thiazolidineethanesulfonic acid, 5-[(3-methyl-4-phenyl-2(3H)-

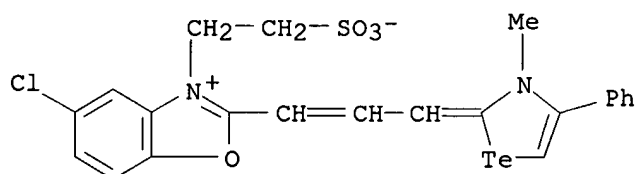


tellurazolylidene)ethylidene]-4-oxo-2-thioxo- (9CI) (CA INDEX NAME)



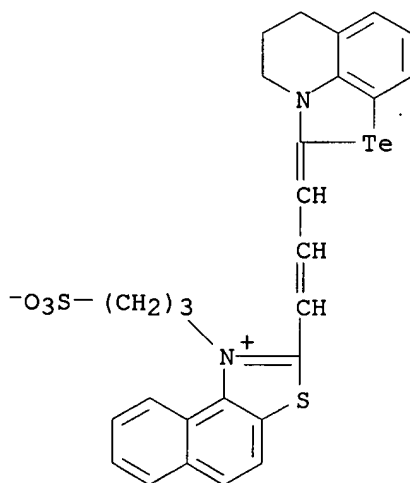
RN 108465-25-4 HCAPLUS

CN Benzoxazolium, 5-chloro-2-[3-(3-methyl-4-phenyl-2(3H)-tellurazolylidene)-1-propenyl]-3-(2-sulfoethyl)-, inner salt (9CI) (CA INDEX NAME)



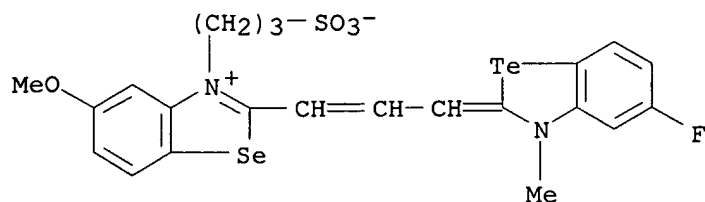
RN 108465-26-5 HCAPLUS

CN Naphtho[1,2-d]thiazolium, 2-[3-(5,6-dihydro-2H,4H-tellurazolo[5,4,3-ij]quinolin-2-ylidene)-1-propenyl]-1-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



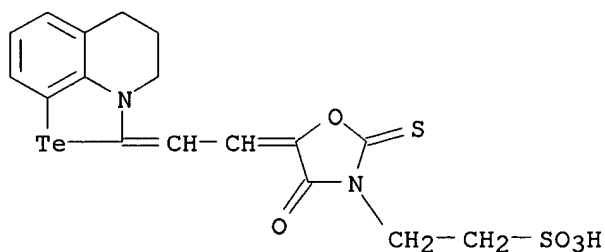
RN 108465-44-7 HCAPLUS

CN Benzoselenazolium, 2-[3-(5-fluoro-3-methyl-2(3H)-benzotellurazolylidene)-1-propenyl]-5-methoxy-3-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



RN 109135-82-2 HCAPLUS

CN 3-Oxazolidineethanesulfonic acid, 5-[(5,6-dihydro-2H,4H-tellurazolo[5,4,3-ij]quinolin-2-ylidene)ethylidene]-4-oxo-2-thioxo-, potassium salt (9CI) (CA INDEX NAME)



○ K

L48 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1987:121391 HCAPLUS

DN 106:121391

TI Aqueous liquid **reactive dye** composition

IN Yamauchi, Noriaki; Ikeou, Shinnei; Imada, Kunihiro

PA Sumitomo Chemical Co., Ltd., Japan

SO Eur. Pat. Appl., 29 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C09B067-26

ICS D06P001-38

CC 41-3 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 40

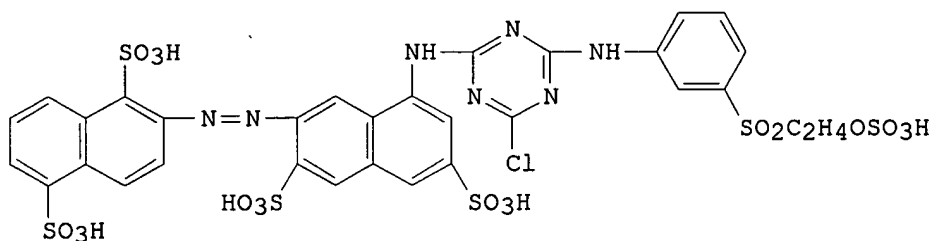
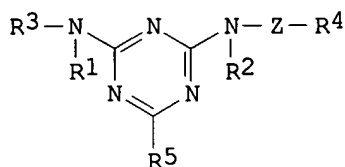
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 208829	A1	19870121	EP 1986-102064	19860218
	EP 208829	B1	19901227		
	EP 208829	B2	19980408		

R: BE, CH, DE, FR, GB, IT, LI, NL, SE

JP 62018473	A2	19870127	JP 1985-157337	19850717
JP 2517220	B2	19960724		
US 4693725	A	19870915	US 1986-831300	19860220
US 4834771	A	19890530	US 1986-836719	19860306
PRAI JP 1985-157337		19850717		

GI



- AB The title compns. contain bifunctional **reactive dyes I** [R1, R2 = H, (un)substituted lower alkyl; R3 = org. dye residue having .gtoreq.1 sulfonic acid group; R4 = SO2CH:CH2, SO2CH2CH2R6; R6 = alkali-cleavable group; R5 = halo; Z = (un)substituted phenylene or naphthylene], in an amt. 5-50% based on the wt. of the liq. compn., are storage-stable, and have pH values 3-7. A 900-part clear dye soln., contg. 22.2% II, was added to 15 parts NaOAc.3H2O, and the whole made to 1000 parts with H2O producing an aq. liq. dye compn. of pH 5.5 which dyed cotton fabric in a red shade by conventional exhaustion, or padding processes.
- ST bifunctional **reactive dye** liq compn; cotton fabric  
bifunctional **reactive dye**; halotriazine contg  
bifunctional **reactive dye**
- IT **Dyes, reactive**  
(bifunctional, azo, manuf. of aq. liq. compns. contg., with high storage stability)
- IT Textile printing  
(on cotton, aq. liq. bifunctional **reactive dye** compns. for, manuf. of)
- IT 80156-97-4 80315-16-8 81494-14-6  
101362-38-3 104256-91-9 105936-66-1  
105956-68-1 107143-02-2 107143-06-6  
107143-07-7 107143-08-8 107143-09-9  
107143-10-2 107143-11-3 107143-12-4  
107198-76-5 107198-77-6 107221-77-2  
RL: USES (Uses)  
(aq. liq. dye compns. contg., manuf. of)
- IT 147-14-8D, sulfonated, chlorotriazine derivs.  
RL: USES (Uses)  
(aq. liq. **reactive dye** compns. contg., manuf. of)

IT 62-76-0, Sodium oxalate 127-08-2, Potassium acetate 127-09-3, Sodium acetate 583-52-8, Potassium oxalate 877-24-7, Potassium hydrogenphthalate 1330-43-4 1332-77-0, Potassium borate 7558-79-4, Disodium hydrogenphosphate 7558-80-7, Sodium dihydrogenphosphate 7758-11-4, Dipotassium hydrogenphosphate 7778-77-0, Potassium dihydrogenphosphate  
RL: USES (Uses)  
(buffer, aq. liq. bifunctional reactive dye compns. contg.)

IT 2494-88-4  
RL: USES (Uses)  
(condensation of, with chlorotriazines)

IT 3177-22-8, Sodium 2,4-diaminobenzenesulfonate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation of, with cyanuric chloride)

IT 108-77-0, Cyanuric chloride  
RL: USES (Uses)  
(condensation of, with sodium diaminobenzenesulfonate)

IT 121-57-3, Aniline-4-sulfonic acid  
RL: USES (Uses)  
(coupling of diazotized, with aminohydroxynaphthalenedisulfonic acid)

IT 3963-80-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(coupling of, with diazotized aminobenzenesulfonic acid)

IT 107143-03-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(coupling of, with diazotized diaminobenzenesulfonics acids)

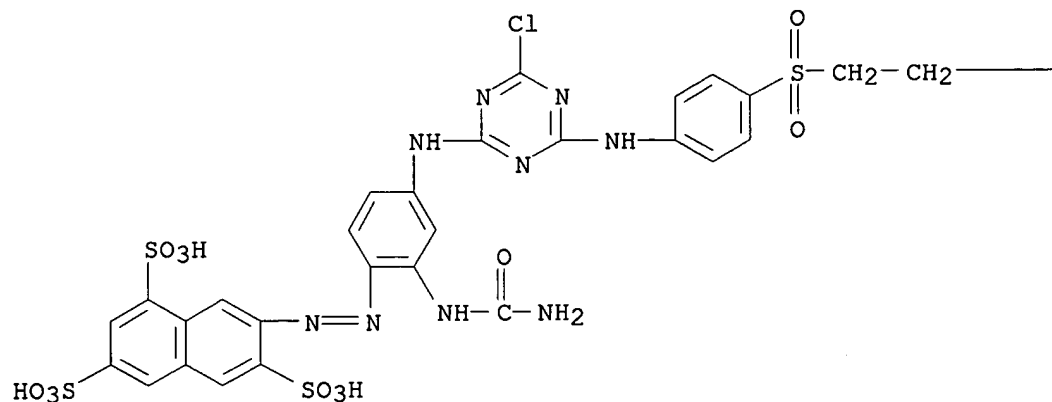
IT 107143-04-4P 107143-05-5P  
RL: PREP (Preparation)  
(manuf. of, as dye for aq. liq. dyeing compns.)

IT 80156-97-4 80315-16-8 81494-14-6  
101362-38-3 104256-91-9 105936-66-1  
105956-68-1 107143-02-2 107143-06-6  
107143-07-7 107143-08-8 107143-09-9  
107143-10-2 107143-11-3 107143-12-4  
107198-76-5 107198-77-6 107221-77-2  
RL: USES (Uses)  
(aq. liq. dye compns. contg., manuf. of)

RN 80156-97-4 HCAPLUS

CN 1,3,6-Naphthalenetrisulfonic acid, 7-[[2-[(aminocarbonyl)amino]-4-[[4-chloro-6-[[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]phenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



O4 Na

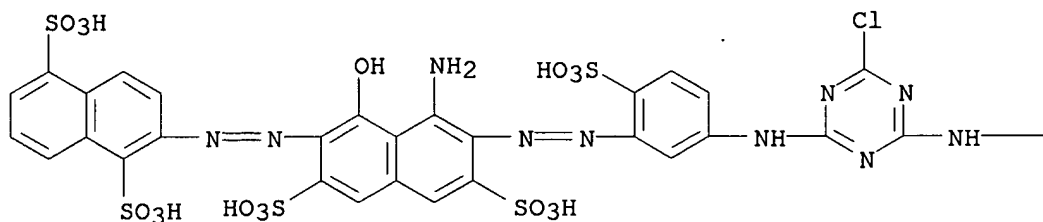
PAGE 1-B

—OSO<sub>3</sub>H

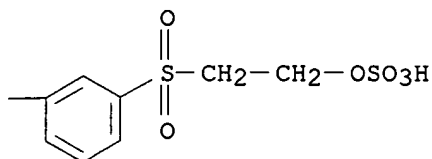
RN 80315-16-8 HCAPLUS

CN 1,5-Naphthalenedisulfonic acid, 2-[[[8-amino-7-[[5-[[4-chloro-6-[[3-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-sulfoxyphenyl]azo]-1-hydroxy-3,6-disulfo-2-naphthalenyl]azo]- (9CI) (CA INDEX NAME)

PAGE 1-A



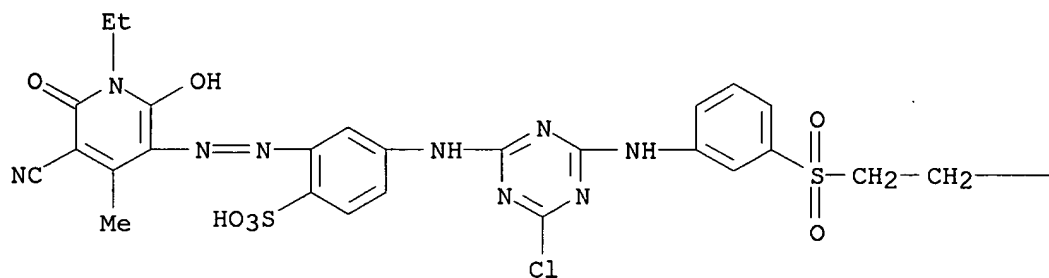
PAGE 1-B



RN 81494-14-6 HCAPLUS

CN Benzenesulfonic acid, 4-[[4-chloro-6-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-[(5-cyano-1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



O2 Na

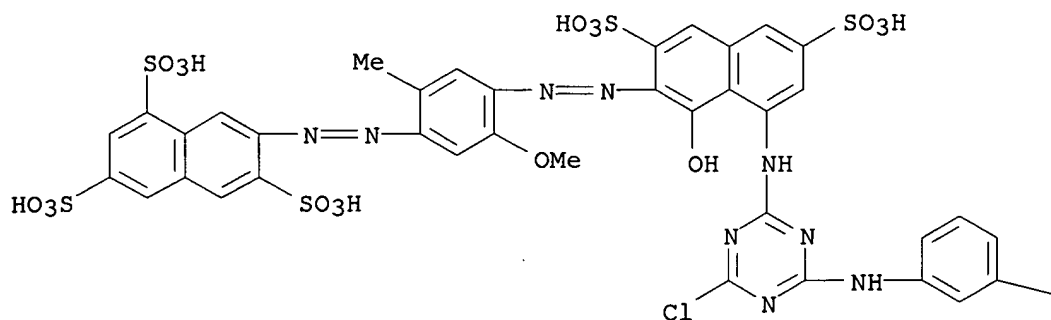
PAGE 1-B

—OSO<sub>3</sub>H

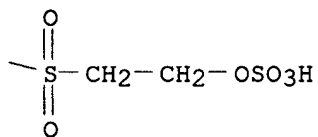
RN 101362-38-3 HCAPLUS

CN 1,3,6-Naphthalenetrisulfonic acid, 7-[[4-[[8-[[4-chloro-6-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-1-hydroxy-3,6-disulfo-2-naphthalenyl]azo]-5-methoxy-2-methylphenyl]azo]- (9CI) (CA INDEX NAME)

PAGE 1-A



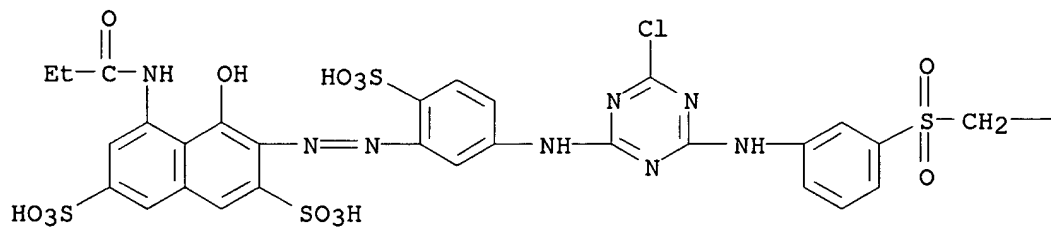
PAGE 1-B



RN 104256-91-9 HCAPLUS

CN 2,7-Naphthalenedisulfonic acid, 3-[[5-[[4-chloro-6-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]azo]-4-hydroxy-5-[(1-oxopropyl)amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



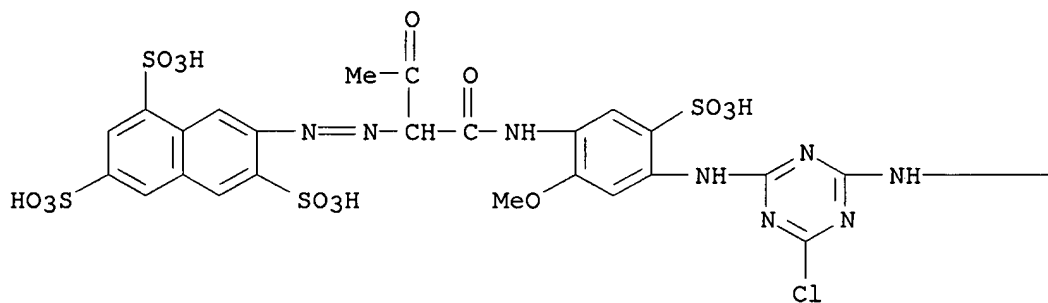
PAGE 1-B

—CH<sub>2</sub>—OSO<sub>3</sub>H

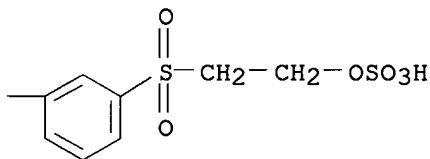
RN 105936-66-1 HCAPLUS

CN 1,3,6-Naphthalenetrisulfonic acid, 7-[[[1-[[[4-[[4-chloro-6-[[3-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-methoxy-5-sulphophenyl]amino]carbonyl]-2-oxopropyl]azo]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

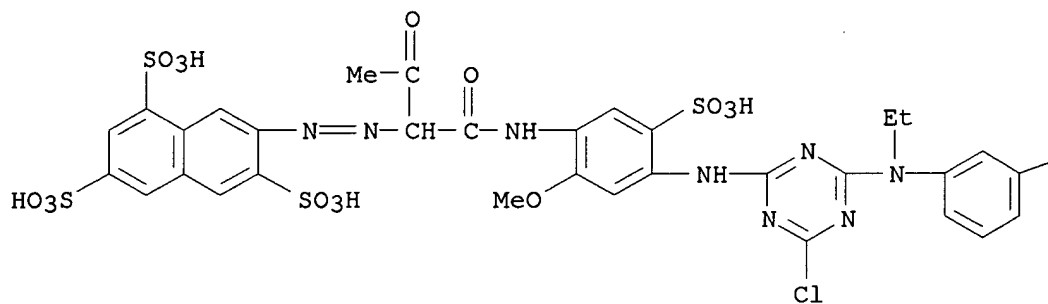


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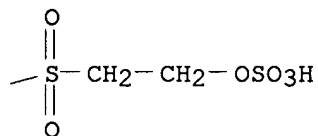
CN 1,3,6-Naphthalenetrisulfonic acid, 7-[[[1-[[[4-[[4-chloro-6-[ethyl[3-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-methoxy-5-sulphophenyl]amino]carbonyl]-2-oxopropyl]azo]- (9CI) (CA INDEX NAME)



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PAGE 1-B

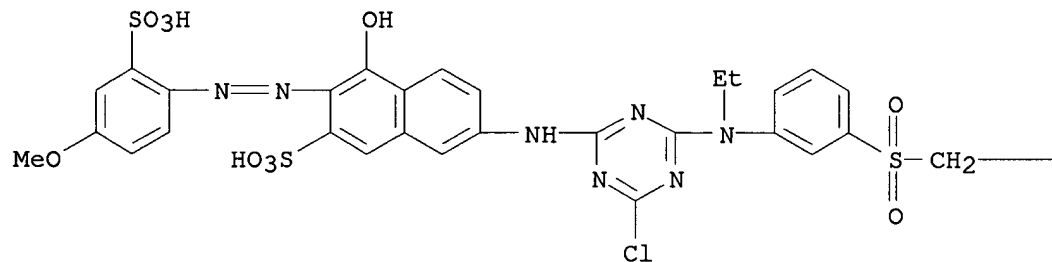


RN 107143-02-2 HCAPLUS

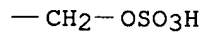
RN 107143-06-6 HCAPLUS

CN 2-Naphthalenesulfonic acid, 7-[[4-chloro-6-[ethyl[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[(4-methoxy-2-sulfophenyl)azo]- (9CI) (CA INDEX NAME)

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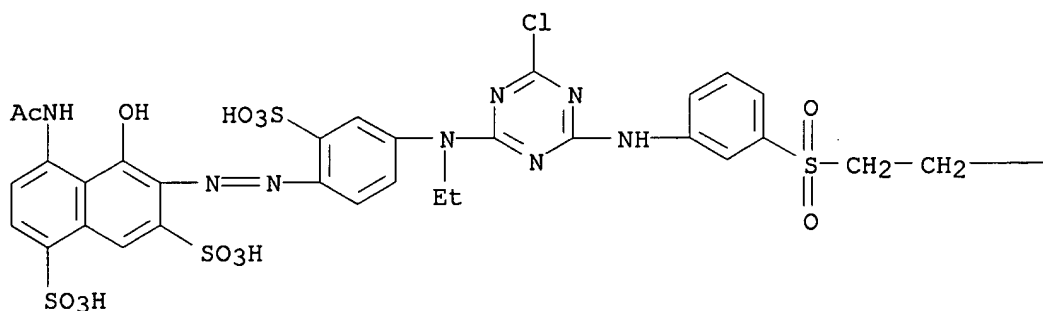
PAGE 1-B



RN 107143-07-7 HCAPLUS

CN 1,7-Naphthalenedisulfonic acid, 4-(acetylamino)-6-[[4-[[4-chloro-6-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]ethylamino]-2-sulfophenyl]azo]-5-hydroxy- (9CI) (CA INDEX NAME)

PAGE 1-A



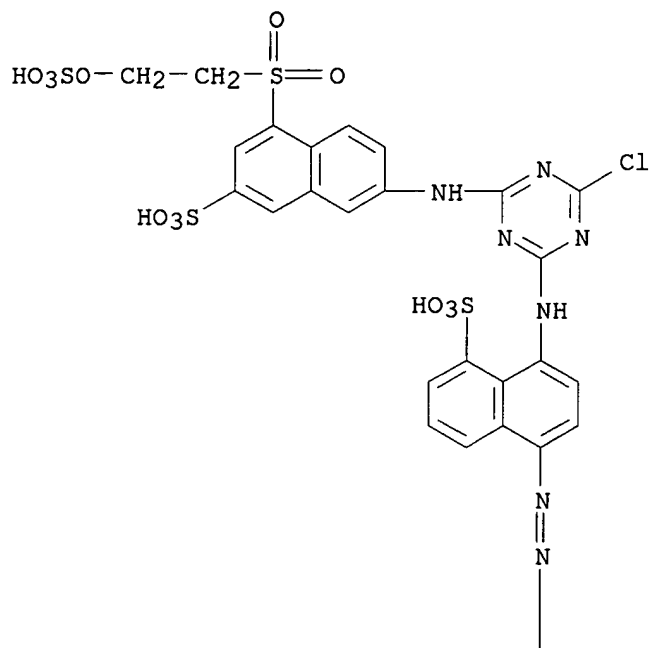
PAGE 1-B

—OSO<sub>3</sub>H

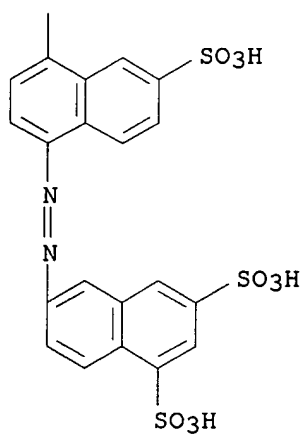
RN 107143-08-8 HCAPLUS

CN 1,3-Naphthalenedisulfonic acid, 6-[[4-[[4-[[4-chloro-6-[[7-sulfo-5-[[2-(sulfooxy)ethyl]sulfonyl]-2-naphthalenyl]amino]-1,3,5-triazin-2-yl]amino]-5-sulfo-1-naphthalenyl]azo]-6-sulfo-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)

PAGE 1-A

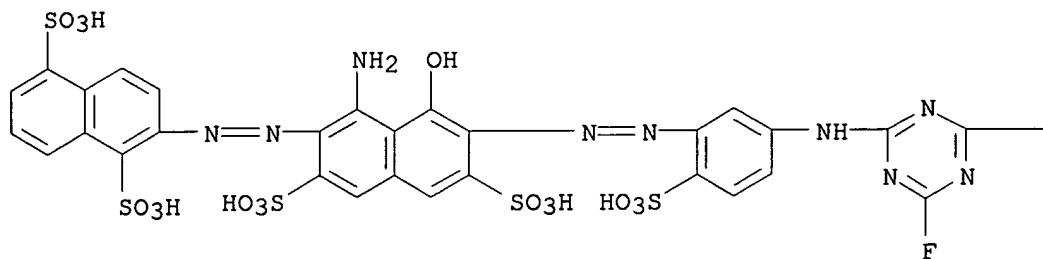


PAGE 2-A

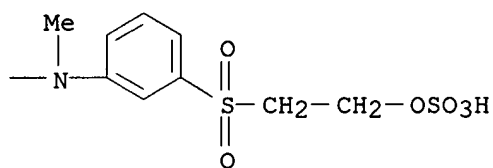


RN 107143-09-9 HCAPLUS  
 CN 1,5-Naphthalenedisulfonic acid, 2-[[[1-amino-7-[[5-[[4-fluoro-6-[methyl[3-  
 [[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-  
 sulfophenyl]azo]-8-hydroxy-3,6-disulfo-2-naphthalenyl]azo]- (9CI) (CA  
 INDEX NAME)

PAGE 1-A

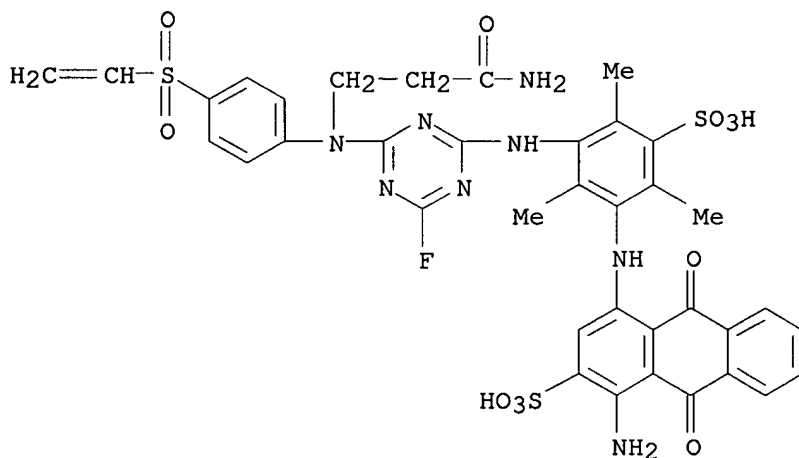


PAGE 1-B



RN 107143-10-2 HCAPLUS

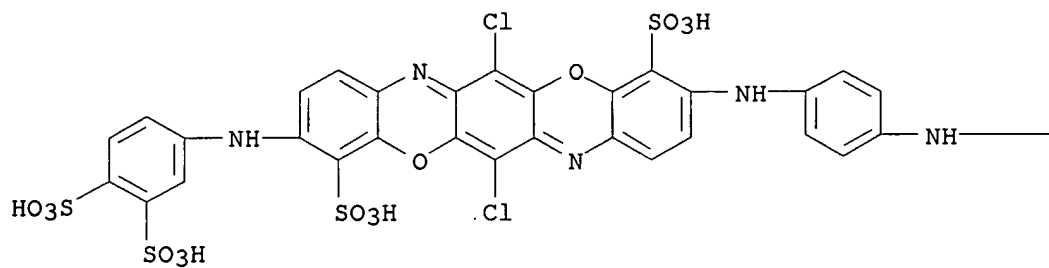
CN 2-Anthracenesulfonic acid, 1-amino-4-[[3-[[4-[(3-amino-3-oxopropyl)[4-(ethenylsulfonyl)phenyl]amino]-6-fluoro-1,3,5-triazin-2-yl]amino]-2,4,6-trimethyl-5-sulfohenyl]amino]-9,10-dihydro-9,10-dioxo- (9CI) (CA INDEX NAME)



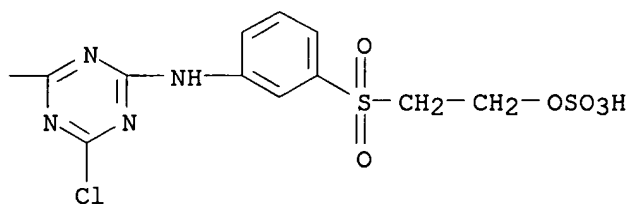
RN 107143-11-3 HCAPLUS

CN 4,11-Triphenodioxazinedisulfonic acid, 6,13-dichloro-3-[[4-[[4-chloro-6-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]phenyl]amino]-10-[(3,4-disulfohenyl)amino]- (9CI) (CA INDEX NAME)

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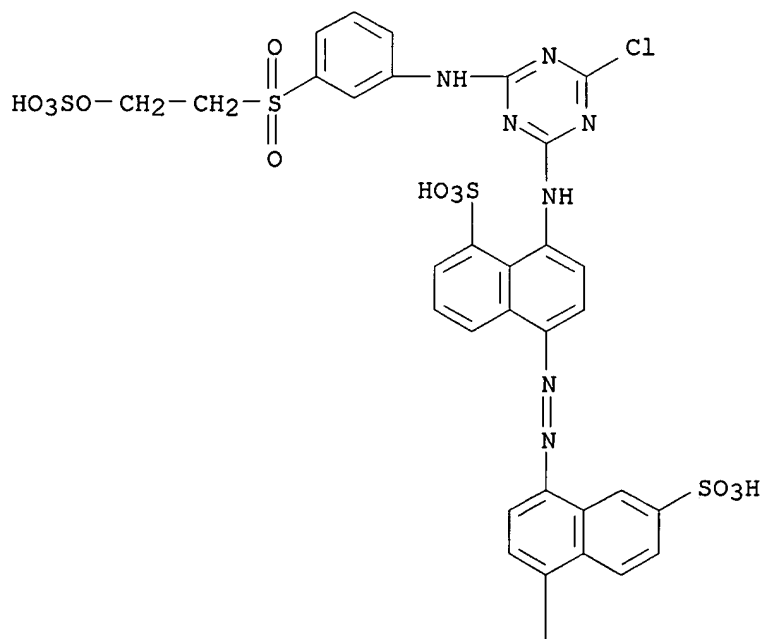
PAGE 1-B



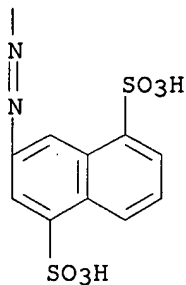
RN 107143-12-4 HCAPLUS

CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[[4-chloro-6-[[3-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-5-sulfo-1-naphthalenyl]azo]-6-sulfo-1-naphthalenyl]azo]- (9CI) (CA INDEX NAME)

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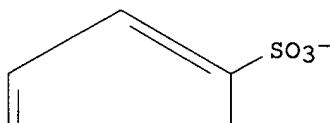


PAGE 2-A



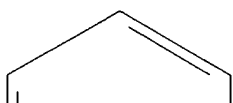
RN 107198-76-5 HCAPLUS  
CN Cuprate(4-), [2-[[[3-[[4-chloro-6-[ethyl[4-[2-(sulfooxy)ethyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-hydroxy-5-sulfophenyl]azo]phenylmethyl]azo]-4-sulfobenzoato(6-)]-, tetrahydrogen (9CI) (CA INDEX NAME)

PAGE 1-B

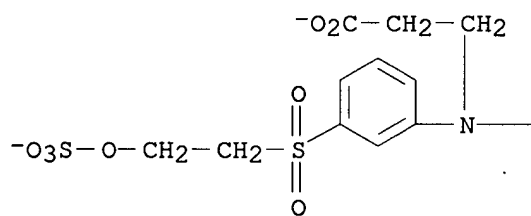




PAGE 1-B

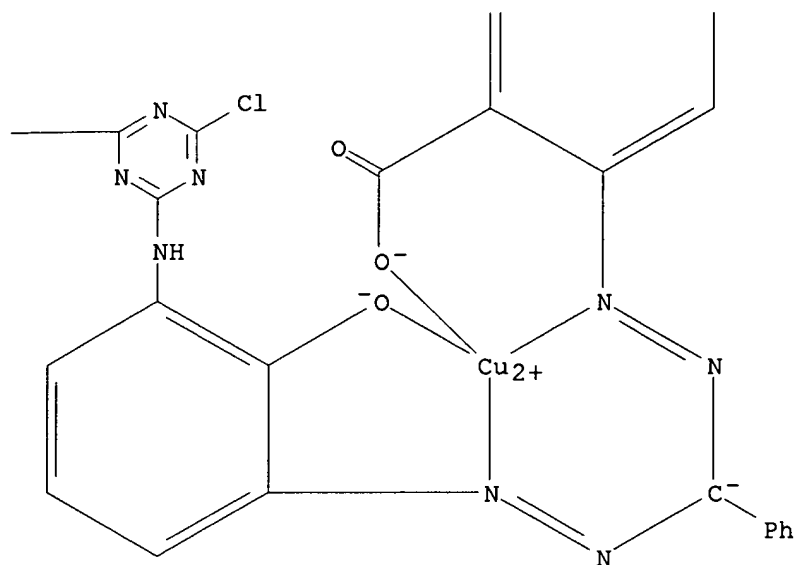


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PAGE 2-B

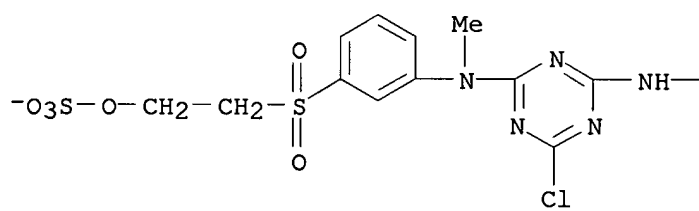
O<sup>3-</sup> H<sup>+</sup>

RN 107221-77-2 HCAPLUS  
 CN Chromate(7-), bis[4-[[6-[[4-chloro-6-[methyl[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-3-hydroxy-7-nitro-1-naphthalenesulfonato(5-)]-, heptahydrogen (9CI) (CA INDEX NAME)

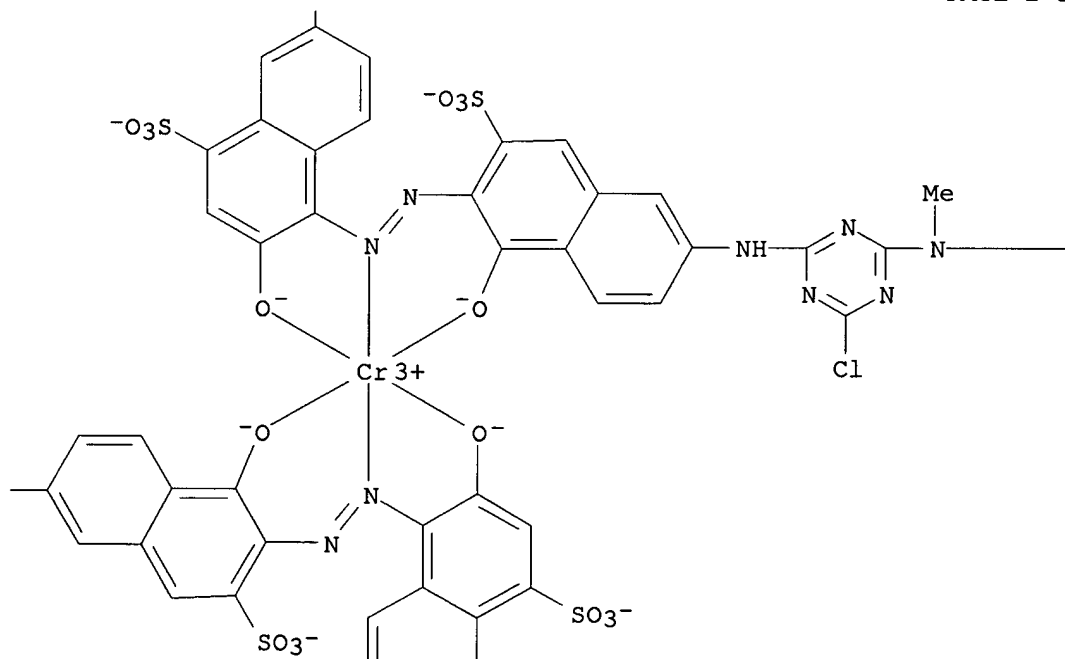
PAGE 1-B

NO<sub>2</sub>  
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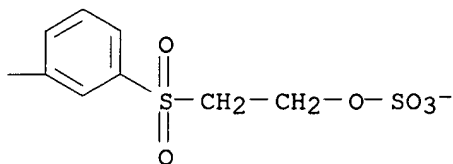
PAGE 2-A



PAGE 2-B



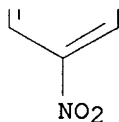
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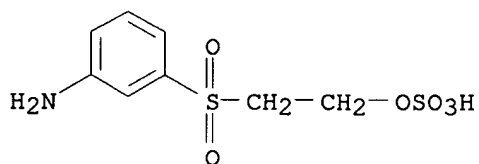
PAGE 3-A

O7 H<sup>+</sup>

PAGE 3-B



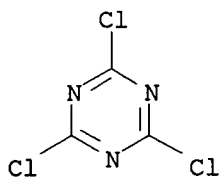
IT **2494-88-4**  
 RL: USES (Uses)  
 (condensation of, with chlorotriazines)  
 RN 2494-88-4 HCAPLUS  
 CN Ethanol, 2-[(3-aminophenyl)sulfonyl]-, hydrogen sulfate (ester) (9CI) (CA INDEX NAME)



IT **108-77-0**, Cyanuric chloride  
 RL: USES (Uses)  
 (condensation of, with sodium diaminobenzenesulfonate)

RN 108-77-0 HCAPLUS

CN 1,3,5-Triazine, 2,4,6-trichloro- (9CI) (CA INDEX NAME)



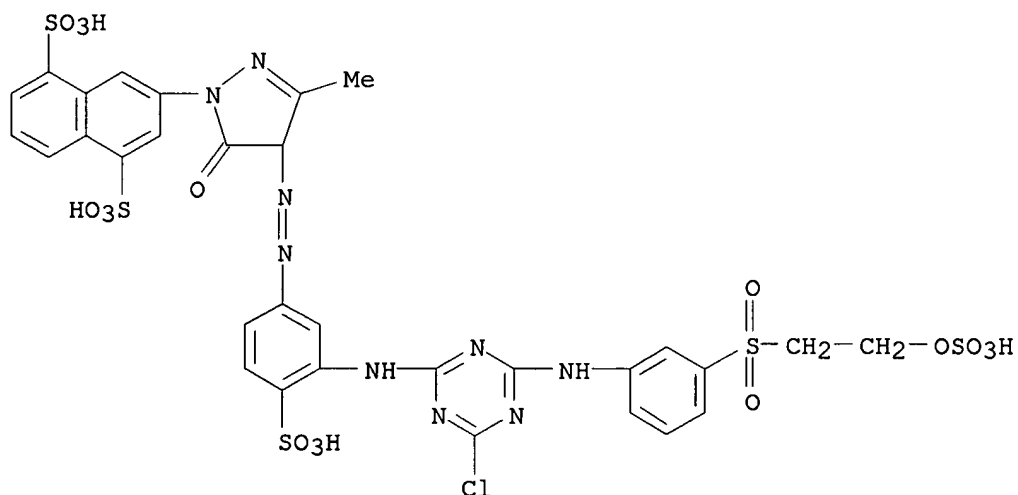
IT 107143-04-4P 107143-05-5P

RL: PREP (Preparation)

(manuf. of, as dye for aq. liq. dyeing compns.)

RN 107143-04-4 HCAPLUS

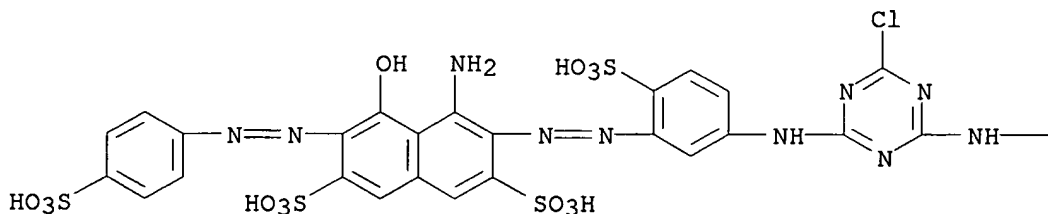
CN 1,5-Naphthalenedisulfonic acid, 3-[4-[[3-[[4-chloro-6-[[3-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-4-sulfophenyl]azo]-4,5-dihydro-3-methyl-5-oxo-1H-pyrazol-1-yl]- (9CI) (CA INDEX NAME)



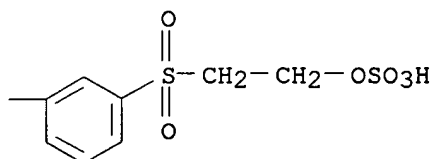
RN 107143-05-5 HCAPLUS

CN 2,7-Naphthalenedisulfonic acid, 4-amino-3-[[5-[[4-chloro-6-[[3-[[2-(sulfoxy)ethyl]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]azo]-5-hydroxy-6-[(4-sulfophenyl)azo]- (9CI) (CA INDEX NAME)

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L48 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1984:211577 HCAPLUS

DN 100:211577

TI **Reactive dye** liquors

PA Hoechst A.-G., Fed. Rep. Ger.

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

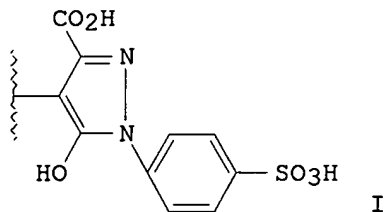
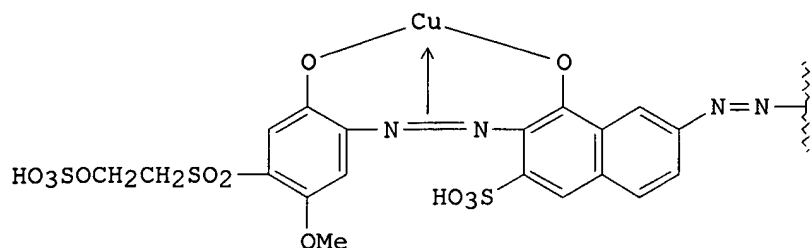
LA Japanese

IC C09B067-26

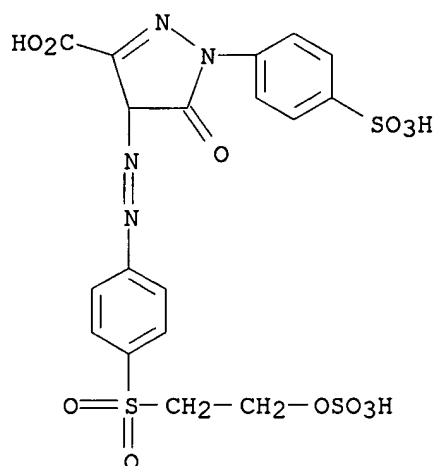
CC 40-6 (Textiles)

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 59025838	A2	19840209	JP 1983-123531	19830708
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GI					

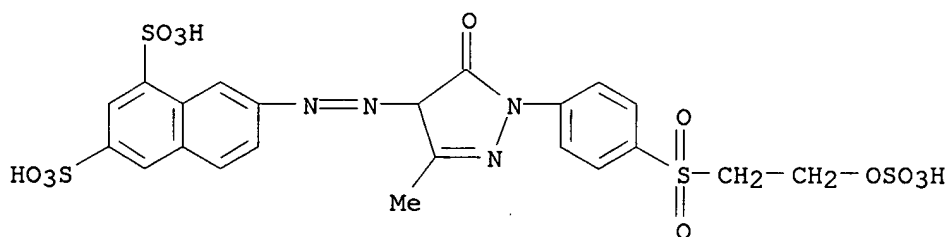


- AB Aq. **reactive dye** liquors having excellent storability contain 5-35% dye and 1-5% Na or K acetate, oxalate, **borate**, and/or phosphate at pH 3-7. Thus, 186 parts aq. solns. contg. 25.7% I [ 57602-19-4] was treated with 5 parts Na2HPO4 to give a compn. having pH 6.2 and storable in a closed container at 50.degree. for 6 wk. This compn. gave a cotton dyeing with color yield comparable to that dyed with the same amt. (in terms of I) of powd. I compn.
- ST **reactive dye** liquor storability; cotton  
**reactive dye** liquor
- IT **Dyeing**  
(of cotton, storable **reactive dye** liquors for)
- IT 10149-98-1 28306-05-0 55909-92-7  
60958-41-0 62121-74-8  
RL: USES (Uses)  
(dyeing with, of cotton, storable liqs. for)
- IT 57602-19-4  
RL: USES (Uses)  
(dyeing with, of cotton, storable liquors for)
- IT 127-08-2 127-09-3 1333-73-9 7558-79-4 10043-22-8 15248-76-7  
RL: USES (Uses)  
(**reactive dye** liquors contg., storable)
- IT 10149-98-1 28306-05-0 55909-92-7  
60958-41-0 62121-74-8  
RL: USES (Uses)  
(dyeing with, of cotton, storable liqs. for)
- RN 10149-98-1 HCAPLUS
- CN 1H-Pyrazole-3-carboxylic acid, 4,5-dihydro-5-oxo-4-[[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-1-(4-sulfophenyl)- (9CI) (CA INDEX NAME)



RN 28306-05-0 HCAPLUS

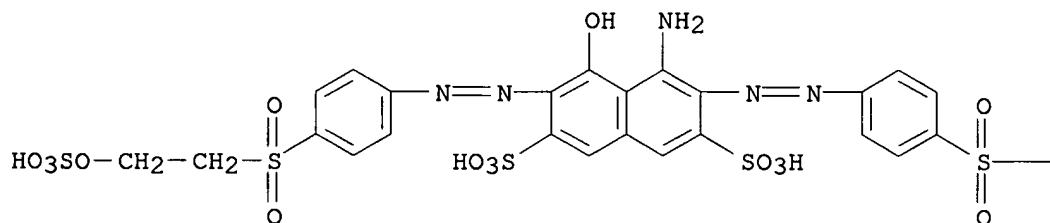
CN 1,3-Naphthalenedisulfonic acid, 7-[[4,5-dihydro-3-methyl-5-oxo-1-[[4-[2-(sulfooxy)ethyl]sulfonyl]phenyl]-1H-pyrazol-4-yl]azo]- (9CI) (CA INDEX NAME)



RN 55909-92-7 HCAPLUS

CN 2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3,6-bis[[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]- (9CI) (CA INDEX NAME)

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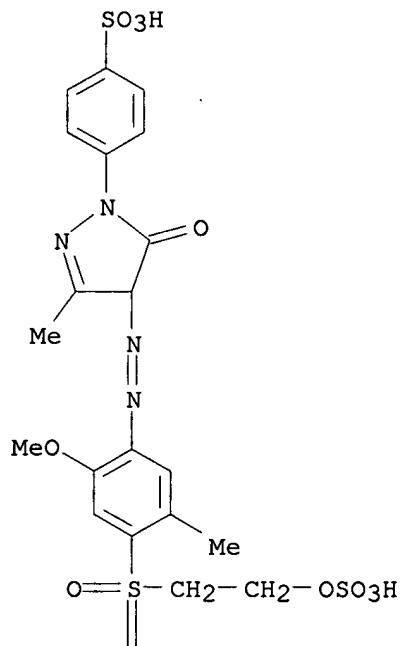
PAGE 1-B

—CH<sub>2</sub>—CH<sub>2</sub>—OSO<sub>3</sub>H

RN 60958-41-0 HCAPLUS

CN Benzenesulfonic acid, 4-[4,5-dihydro-4-[[2-methoxy-5-methyl-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-3-methyl-5-oxo-1H-pyrazol-1-yl]-  
(9CI) (CA INDEX NAME)

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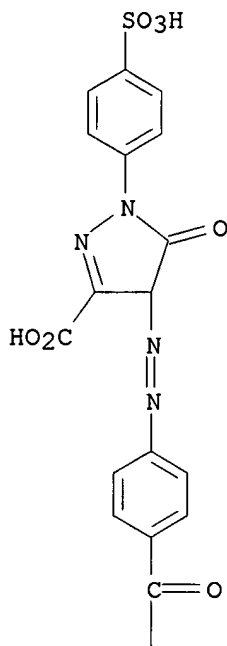


RN 62121-74-8 HCAPLUS

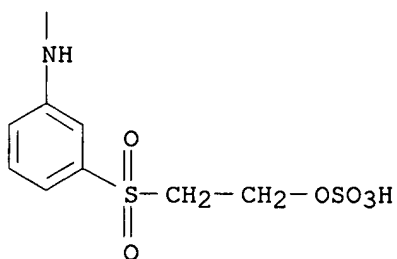
CN 1H-Pyrazole-3-carboxylic acid, 4,5-dihydro-5-oxo-4-[[4-[[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]carbonyl]phenyl]azo]-1-(4-sulphophenyl)- (9CI) (CA INDEX NAME)



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IT 57602-19-4

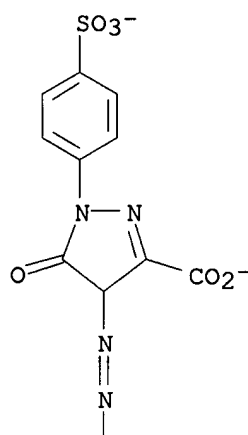
RL: USES (Uses)

(dyeing with, of cotton, storable liquors for)

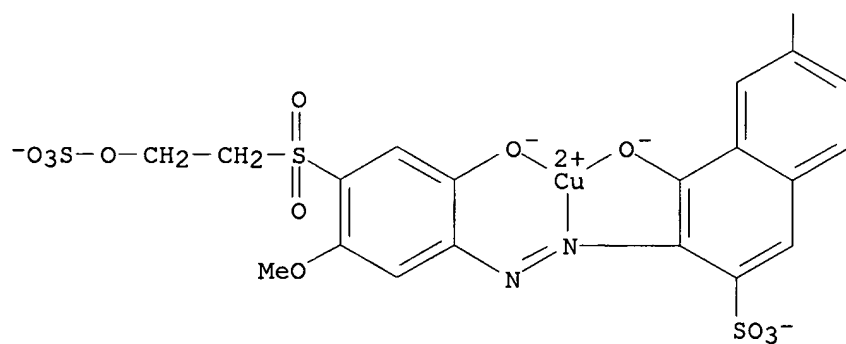
RN 57602-19-4 HCAPLUS

CN Cuprate(4-), [4,5-dihydro-4-[[8-(hydroxy-.kappa.O)-7-[[2-(hydroxy-.kappa.O)-5-methoxy-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo-.kappa.N1]-6-sulfo-2-naphthalenyl]azo]-5-oxo-1-(4-sulfophenyl)-1H-pyrazole-3-carboxylato(6-)]-, tetrahydrogen (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

⊙4 H<sup>+</sup>

L48 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1980:216732 HCAPLUS

DN 92:216732

TI Water-soluble benzoxanthene and benzothioxanthene compounds

IN Otten, Joachim; Troester, Helmut; Loehe, Konrad

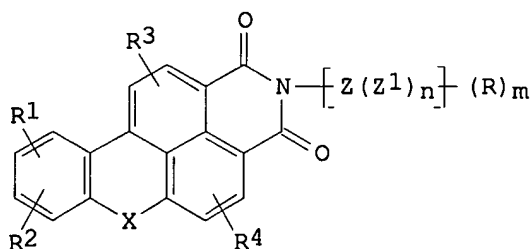
PA Hoechst A.-G., Fed. Rep. Ger.

SO Patentschrift (Switz.), 8 pp.

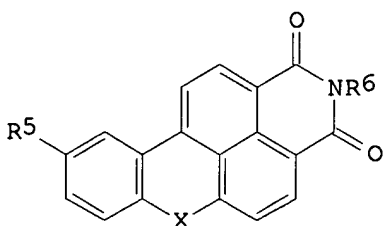
CODEN: SWXXAS

DT Patent  
 LA German  
 IC C09B057-00  
 CC 40-6 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CH 614728	A	19791214	CH 1975-12615	19750929
PRAI	CH 1975-12615		19750929		
GI					



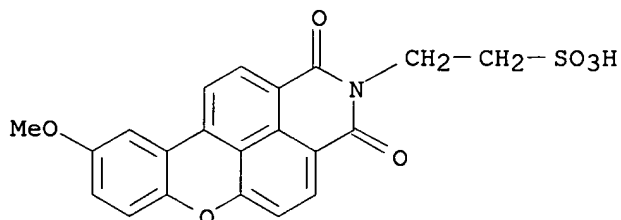
I



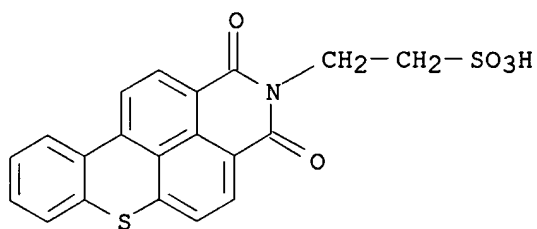
II

- AB Reaction of sulfo group-free benzoxanthene- or benzothioxanthene-3,4-dicarboxylic anhydride with primary amines contg. a water-solubilizing group gives title dyes of general structure I, where X = O or S; Z = di- or trivalent bridging group; Z1 = di- or trivalent benzene or naphthalene group, an arom. or aliph. carboxylic acid deriv. group (ester, amide, acyl), an arom. or aliph. sulfoamide group, or a sulfonamido or carboxamido group; R (bonded to Z or Z1) = sulfo, sulfato, thiosulfato, phosphato, **phosphonic** acid or ester group; R1-R4 = H, halo, OH, NO2, C1-4 alkyl or alkoxy; n = 0 or 1; and m = 1 or 2. I give brilliant, deep reddish yellow to greenish yellow dyeings on amide-type fibers and exhibit high light- and wetfastness. Typical dyes are II(X = S, R5 = H, R6 = CH2CH2SO3K) [59373-66-9], golden yellow on nylon and wool, and the K-Na salt of II[X = O, R5 = MeO, R6 = NHC6H3(SO3H)2-2,5], yellow on nylon.
- ST benzoxanthene dye polyamide fiber; benzothioxanthene dye polyamide fiber; polyamide fiber dye; wool dye; acid dye polyamide fiber
- IT Dyes  
 (benzoxanthene- and benzothioxanthenedicarboximides, water-sol., for wool and polyamide fibers)
- IT Polyamide fibers, uses and miscellaneous  
 RL: USES (Uses)  
 (dyes for, benzoxanthene- and benzothioxanthenedicarboximides as)
- IT **59373-54-5P** 59373-62-5DP, potassium-sodium salt  
 RL: **PREP (Preparation)**  
 (manuf. of, as a dye for polyamide fibers)

- IT 59373-58-9P 59373-59-0P 59373-64-7DP, potassium-sodium salt  
**59373-66-9P**  
 RL: **PREP (Preparation)**  
 (manuf. of, as a dye for wool and polyamide fibers)
- IT **59373-57-8P**  
 RL: **PREP (Preparation)**  
 (manuf. of, as dye for polyamide fibers)
- IT **59373-56-7P**  
 RL: **PREP (Preparation)**  
 (manuf. of, as dye for wool and polyamide fibers)
- IT 14121-49-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with aliph. amines, in dye manuf.)
- IT 40847-72-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with amines, in dye manuf.)
- IT 33784-39-3 59373-55-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with aminoethanesulfonic acid, in dye manuf.)
- IT **107-35-7**  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with benzoxanthene- and benzothioxanthenedicarboxylic acid anhydrides, in dye manuf.)
- IT 2937-53-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with benzoxanthenedicarboxylic acid anhydride, in dye manuf.)
- IT 926-39-6 40723-89-5 59373-63-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with methoxybenzoxanthenedicarboxylic acid anhydride)
- IT **59373-54-5P**  
 RL: **PREP (Preparation)**  
 (manuf. of, as a dye for polyamide fibers)
- RN 59373-54-5 HCAPLUS
- CN 1H-Xantheno[2,1,9-def]isoquinoline-2(3H)-ethanesulfonic acid,  
 9-methoxy-1,3-dioxo- (9CI) (CA INDEX NAME)



- IT **59373-66-9P**  
 RL: **PREP (Preparation)**  
 (manuf. of, as a dye for wool and polyamide fibers)
- RN 59373-66-9 HCAPLUS
- CN 1H-Thioxantheno[2,1,9-def]isoquinoline-2(3H)-ethanesulfonic acid,  
 1,3-dioxo-, potassium salt (9CI) (CA INDEX NAME)



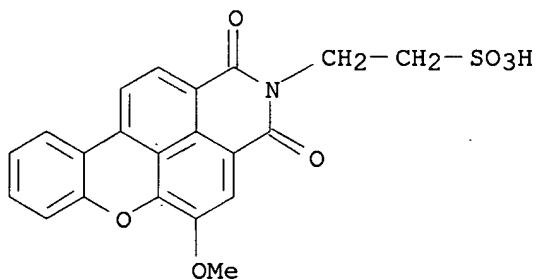
O K

IT 59373-57-8P

RL: PREP (Preparation)

(manuf. of, as dye for polyamide fibers)

RN 59373-57-8 HCAPLUS

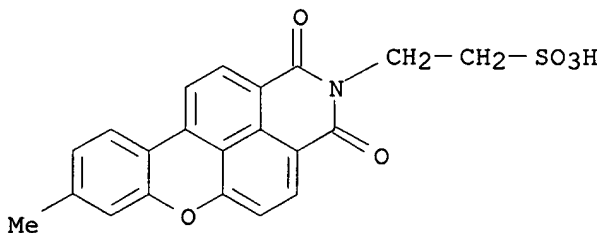
CN 1H-Xantheno[2,1,9-def]isoquinoline-2(3H)-ethanesulfonic acid,  
5-methoxy-1,3-dioxo- (9CI) (CA INDEX NAME)

IT 59373-56-7P

RL: PREP (Preparation)

(manuf. of, as dye for wool and polyamide fibers)

RN 59373-56-7 HCAPLUS

CN 1H-Xantheno[2,1,9-def]isoquinoline-2(3H)-ethanesulfonic acid,  
8-methyl-1,3-dioxo- (9CI) (CA INDEX NAME)

IT 107-35-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with benzoxanthene- and benzothioxanthenedicarboxylic  
acid anhydrides, in dye manuf.)

RN 107-35-7 HCAPLUS

CN Ethanesulfonic acid, 2-amino- (9CI) (CA INDEX NAME)

H<sub>2</sub>N-CH<sub>2</sub>-CH<sub>2</sub>-SO<sub>3</sub>H

L48 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1979:56202 HCAPLUS

DN 90:56202

TI Decoloration of **reactive dyes** by THPC. 2

AU Tsuji, Hiroaki

CS Hyogo-ken Seni Kogyo Shidosho, Japan

SO Kenkyu Hokoku - Hyogo-ken Sen'i Kogyo Shidosho (1976) 28-35

CODEN: KHHSDF; ISSN: 0289-9493

DT Journal

LA Japanese

CC 39-7 (Textiles)

AB On treatment of a liquor contg. a **reactive dye** with tetrakis(hydroxymethyl)phosphonium chloride (I) [124-64-1] for 120 min at 80.degree., the degree of decoloration of azo **reactive dyes** was greater than the degree of decoloration of anthraquinone **reactive dyes**. On treatment of C.I. Reactive Red 3 [23211-47-4] with I at pH 2.3-7.2, the degree of decoloration of the dye was rapid at pH 5-6.

ST tetrakis(hydroxymethyl)phosphonium chloride dye decoloration; **reactive dye** decoloration

IT Fading

(of **reactive dyes**, by tetrakis(hydroxymethyl)phosphonium chloride)

IT 2580-78-1 6539-67-9 12225-45-5 12225-46-6 12225-53-5  
12225-54-6 12226-12-9 12226-16-3 12226-17-4 12226-45-8  
12226-47-0 12226-50-5 12226-51-6 12226-52-7 12226-63-0  
12236-82-7 12236-86-1 12237-03-5 12239-37-1 16893-49-5  
17681-50-4 17752-85-1 20317-19-5 23211-47-4

RL: PROC (Process)

(decoloration of, by tetrakis(hydroxymethyl)phosphonium chloride)

IT 124-64-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(**reaction** of, with **reactive dyes**, **dye** decoloration in relation to)

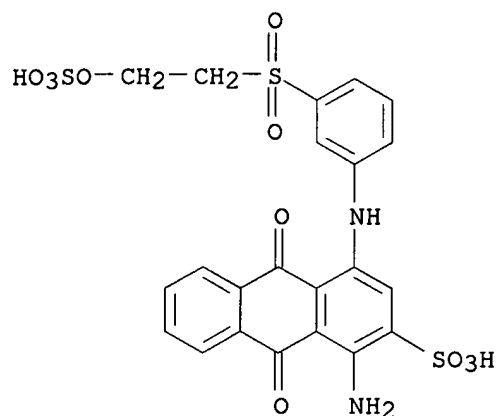
IT 2580-78-1 20317-19-5

RL: PROC (Process)

(decoloration of, by tetrakis(hydroxymethyl)phosphonium chloride)

RN 2580-78-1 HCAPLUS

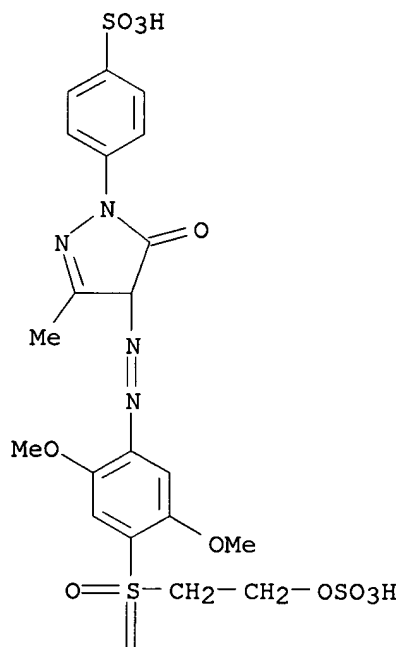
CN 2-Anthracenesulfonic acid, 1-amino-9,10-dihydro-9,10-dioxo-4-[[3-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]amino]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 20317-19-5 HCAPLUS  
 CN Benzenesulfonic acid, 4-[4-[[2,5-dimethoxy-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-4,5-dihydro-3-methyl-5-oxo-1H-pyrazol-1-yl]-, dipotassium salt (9CI) (CA INDEX NAME)

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O2 K

L48 ANSWER 27 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1976:32504 HCAPLUS

DN 84:32504

TI Liquid **dye** preparation of a fiber-**reactive dye**

IN Schlaefer, Ludwig; Opitz, Konrad

PA Hoechst A.-G., Fed. Rep. Ger.

SO Ger. Offen., 12 pp.

CODEN: GWXXBX

DT Patent

LA German

IC C09B; D06P

CC 39-7 (**Textiles**)

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2417254	A1	19751023	DE 1974-2417254	19740409
	DE 2417254	B2	19760422		
	DE 2417254	C3	19761202		
	IN 143735	A	19780121	IN 1975-CA670	19750402
	JP 50136316	A2	19751029	JP 1975-41359	19750407
	CH 580149	A	19760930	CH 1975-4465	19750408
	AU 7579937	A1	19761014	AU 1975-79937	19750408
	AU 499813	B2	19790503		
	CA 1070903	A1	19800205	CA 1975-224031	19750408
	FR 2267351	A1	19751107	FR 1975-11025	19750409
	FR 2267351	B1	19781103		
	BR 7502162	A	19760210	BR 1975-2745	19750409
	CS 187467	P	19790131	CS 1975-2434	19750409
	JP 51119035	A2	19761019	JP 1976-33691	19760329
	<u>US 4149850</u>	A	19790417	US 1978-875086	19780203
	JP 59025838	A2	19840209	JP 1983-123531	19830708
	JP 59044327	B4	19841029		
PRAI	DE 1974-2417253		19740409		
	DE 1974-2417254		19740409		
	DE 1974-2417256		19740409		
	DE 1974-2454893		19741120		
	US 1975-565738		19750407		
	US 1976-656707		19760209		
GI	For diagram(s), see printed CA Issue.				
AB	Storage-stable solns. of <b>reactive dye</b> (I) [ <b>57602-19-4</b> ] (20.5-25.7 wt. %) which remained unchanged during storage at 20.degree. for 3 months in a sealed container were prepd. by adjusting the pH of an aq. soln. to 5.9-6.2 with 1-5 wt. % of a buffer, such as Na2HPO4 or Na <b>borate</b> , and the solns. dyed cotton the same shade and strength as a powdered prepd. which was adjusted to the concn. of the liq. prepn. in the dye bath.				
ST	fiber <b>reactive</b> liq <b>dyeing</b> prepn; azo dye liq prepn				



IT Buffer substances and systems  
(in aq. storage-stable solns. of fiber-**reactive** metallized  
azo **dye**)

IT **Dyes, reactive**  
(metallized azo, aq. storage-stable solns. of, cotton)

IT **Dyeing**  
(of cotton, with fiber-**reactive** azo copper complex  
**dye**, aq. compn. for)

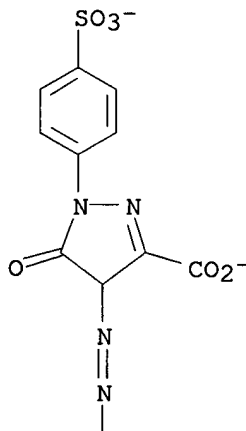
IT **57602-19-4**  
RL: USES (Uses)  
(aq. storage-stable solns. of, for cotton dyeing)

IT **57602-19-4**  
RL: USES (Uses)  
(aq. storage-stable solns. of, for cotton dyeing)

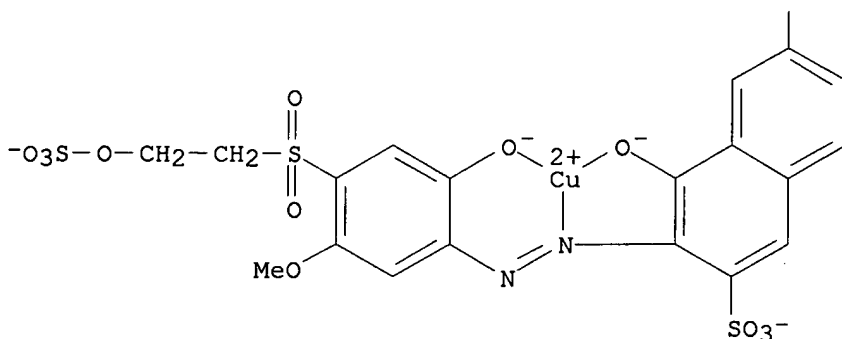
RN 57602-19-4 HCAPLUS

CN Cuprate(4-), [4,5-dihydro-4-[[8-(hydroxy-.kappa.O)-7-[[2-(hydroxy-.kappa.O)-5-methoxy-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo-.kappa.N1]-6-sulfo-2-naphthalenyl]azo]-5-oxo-1-(4-sulfophenyl)-1H-pyrazole-3-carboxylato(6-)]-, tetrahydrogen (9CI) (CA INDEX NAME)

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PAGE 2-A

O4 H<sup>+</sup>

L48 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2003 ACS

AN 1971:88663 HCAPLUS

DN 74:88663

TI Anthraquinone dyes

PA Farbwerke Hoechst A.-G.

SO Fr. Demande, 16 pp.

CODEN: FRXXBL

DT Patent

LA French

IC C09B; D06P

CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2015445	A5	19700424	FR 1969-27525	19690811
	FR 2015445	B1	19740315		
	DE 1793172	A	19710701	DE 1967-1793172	19680810
	<u>US 3663576</u>	A	19720516	US 1969-848073	19690806
	CH 540318	A	19730928	CH 1969-12006	19690807
	CH 543565	A	19731214	CH 1973-4203	19690807
	AT 287142	B	19710111	AT 1969-7654	19690808
	JP 51041644	B4	19761111	JP 1969-62654	19690809
	BE 737331	A	19700211	BE 1969-737331	19690811
	GB 1241102	A	19710728	GB 1969-1241102	19690811
PRAI	DE 1967-1793172		19680810		

GI For diagram(s), see printed CA Issue.

AB The title compds. [I, R1 or R2 is or contains SO<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OPO<sub>3</sub>H<sub>2</sub> (Q)] are blue dyes for cotton. Thus, I (n = 0, R = R1 = H, R2 = Q) was prep'd. by treating bromamine acid (II) with 3-H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>Q in the presence of CuCl and Cu or by treating II with 3-H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OH and esterifying the product by treating with pyrophosphoric acid at 100.degree. or with POCl<sub>3</sub> at 70-5.degree. followed by hydrolysis. Similarly 4 other I were prep'd.

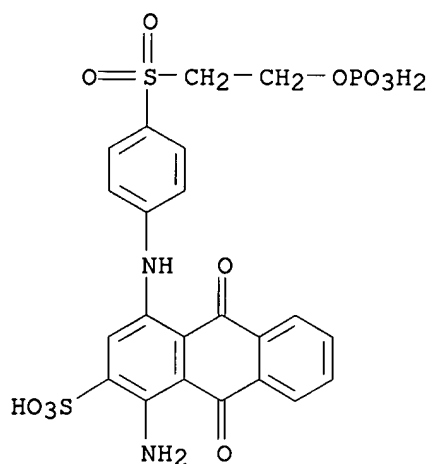
ST cellulose dyes; hydroxyethylsulfonyl anthraquinones phosphates; anthraquinones hydroxyethylsulfonyl phosphates;

**phosphonooxyethylsulfonyl anthraquinones**

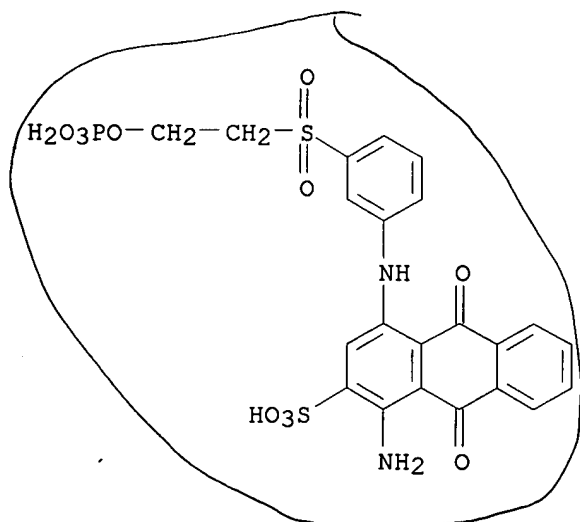
IT **Dyes, reactive**

(aminodihydro[[(hydroxyethyl)sulfonyl]anilino]dioxoanthracenesulfonic

acid derivs., dihydrogen sulfate esters, cotton)  
 IT 29622-66-0P 31651-08-8P 31651-09-9P  
 31651-11-3P 31651-12-4P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (prepn. of)  
 IT 29622-66-0P 31651-08-8P 31651-09-9P  
 31651-11-3P 31651-12-4P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (prepn. of)  
 RN 29622-66-0 HCAPLUS  
 CN 2-Anthracenesulfonic acid, 1-amino-9,10-dihydro-9,10-dioxo-4-[[4-[[2-(phosphonooxy)ethyl]sulfonyl]phenyl]amino]- (9CI) (CA INDEX NAME)

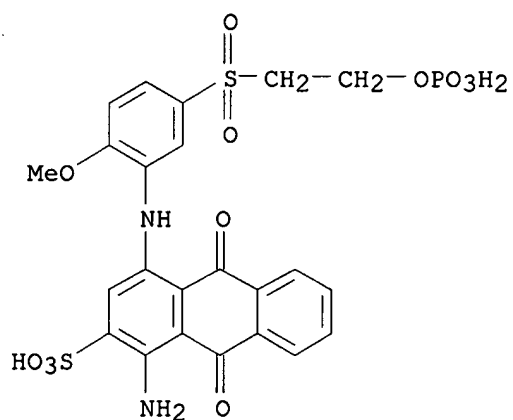


RN 31651-08-8 HCAPLUS  
 CN 2-Anthracenesulfonic acid, 1-amino-9,10-dihydro-4-[m-[(2-hydroxyethyl)sulfonyl]anilino]-9,10-dioxo-, dihydrogen phosphate (ester) (8CI) (CA INDEX NAME)



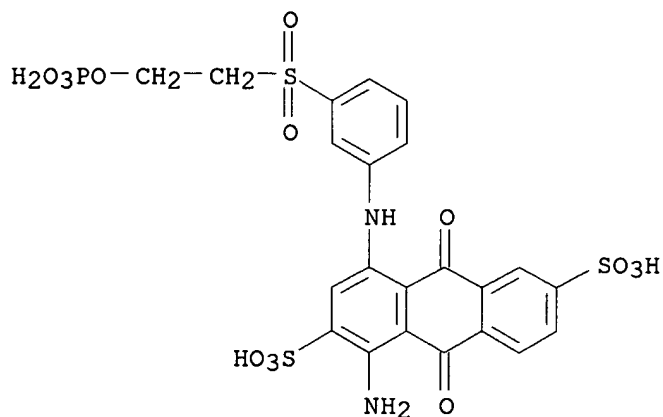
RN 31651-09-9 HCAPLUS  
 CN 2-Anthracenesulfonic acid, 1-amino-9,10-dihydro-4-[5-[(2-hydroxyethyl)sulfonyl]-2-methoxyanilino]-9,10-dioxo-, dihydrogen phosphate

(ester) (8CI) (CA INDEX NAME)



RN 31651-11-3 HCAPLUS

CN 2,6-Anthracenedisulfonic acid, 1-amino-9,10-dihydro-4-[m-[(2-hydroxyethyl)sulfonyl]anilino]-9,10-dioxo-, dihydrogen phosphate (ester)  
(8CI) (CA INDEX NAME)



RN 31651-12-4 HCAPLUS

CN 2-Anthracenesulfonic acid, 1-amino-9,10-dihydro-4-[p-(2-hydroxy-N-methylethanesulfonamido)anilino]-9,10-dioxo-, dihydrogen phosphate (ester)  
(8CI) (CA INDEX NAME)

